



MINISTERO DELL'ECONOMIA  
E DELLE FINANZE

# Italy's report on economic reform

*december 2001*

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Istituto Poligrafico e Zecca dello Stato - Salario





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## I. INTRODUCTION

Italy's economic development in the last few years has been marked by an extensive reform of regulations governing the product and capital markets.

The need to bring these processes to completion has been stressed by the European Commission and other international institutions and is central to the economic policy guidelines approved by the European Council and, more generally, to a strategy for restoring Italian economic competitiveness. The necessity to continue with this effort is underscored by the persistence of a significant differential in core inflation between Italy and the other European countries.

In some sectors, such as energy and telecommunications, the progress in market opening made in the past few years has continued. In others, such as postal services, public transport, and public procurement, a process of reform to enhance competition has been started.

Market mechanisms have been introduced in the management and supply of public utilities. In the area of local public services, competitive tenders have opened the way for private providers <sup>(1)</sup>.

In redesigning market structures, regulatory reform must also extend to services other than public utilities. Some service industries as retailing, financial, insurance and professional services are already to a large extent involved in reform processes, but it must be acknowledged that a satisfactorily competitive environment has not yet been created.

Measures have been taken to ease the administrative burden on firms and encourage innovation. Nevertheless, the barriers to business expansion, especially for small and medium-sized enterprises, remain significant.

The present Report describes the progresses in the field of liberalisation. It stresses the links between the policies affecting products and capital markets, on one side, and the policies aimed to protect environment, on the other side.

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<sup>(1)</sup> Law 448/01 (Finance Law for 2002) provides for the possibility of local governments contracting out service management through public procedures.





Special parts analyse the measures directed to the follow up of the country specific recommendation included in the BEPGs for 2001, the policies aimed to environment protection and the sustainability of the Italian pension system.

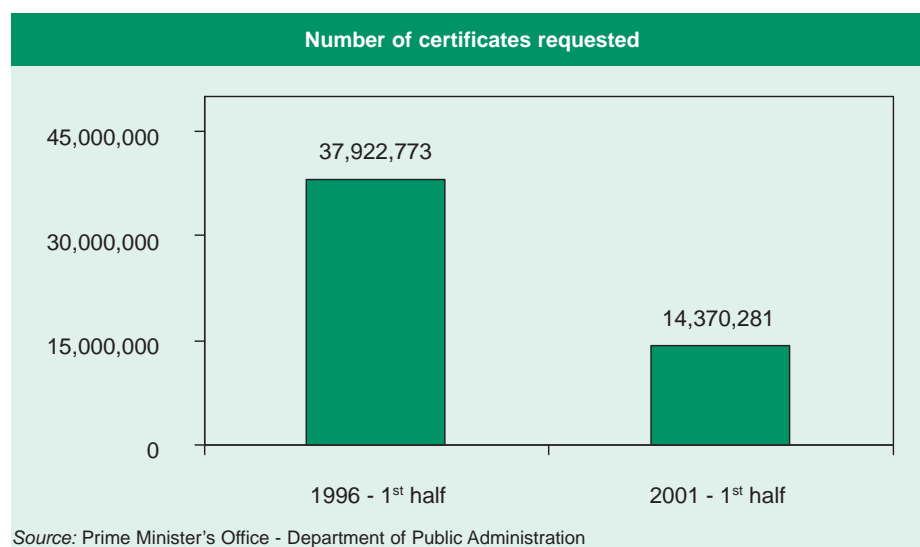
## II. ASSESSMENT OF MARKET PERFORMANCE AND STRUCTURAL REFORMS

### II A. PRODUCT MARKETS

#### Opening new markets to competition and furthering economic integration

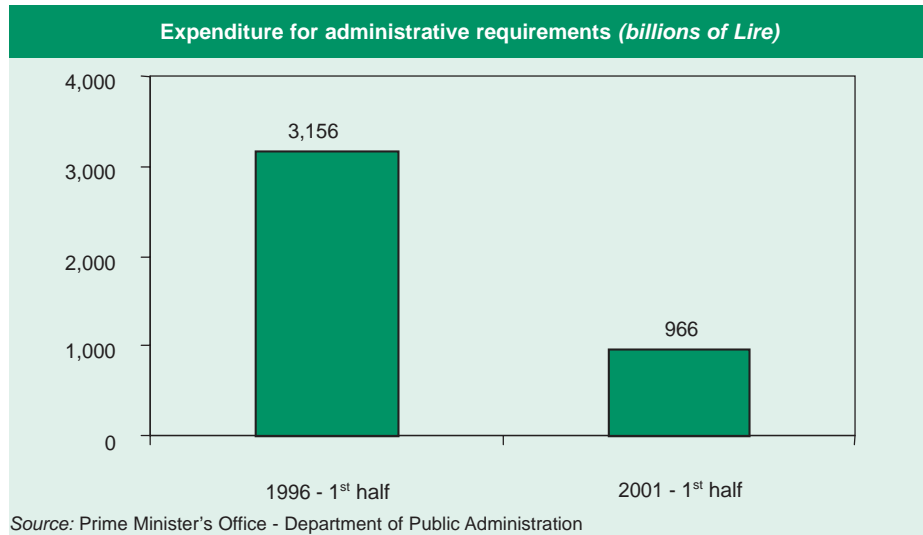
##### *Legal and administrative framework*

Italy has continued the process of administrative reform and streamlining. In the first six months of 2001, 62 per cent fewer certificates were requested than in the first half of 1996.



Similarly, the number of authenticated signatures was 90 per cent lower, just 1.9 million between January and June 2001 compared with 19 million in the first six months of 1996. In the first half of 2001, the smaller number of certificates and authentications has reduced the cost of these administrative requirements from 3,156 billion Lire in the first half of 1996 to under 966 billion Lire. The total saving is estimated at about 2,100 billion Lire, with further improvement expected for the year 2001 as a whole.





The simplification of rules and the streamlining of procedures, carried out by the Simplification Task Force instituted in 1999, have permitted to simplify 111 different procedures. During the last year five codified laws have been finalised (on administrative documentation, construction, and public right of way, court costs and travel and residence of EU citizens). The codified law on administrative documentation went into force in March 2001. It establishes that government departments cannot require certificates in any of the cases in which self-certification is allowed. This will generate further improvements, not yet quantifiable, in both the number of certificates and in the savings for users.

The one-stop shop for firms <sup>(2)</sup> has been strengthened as the single interlocutor for businesses, and the principle of a unique procedure for establishment, restructuring or expansion of a manufacturing or service unit (industry, hotel, store, shopping center, etc.) has been introduced. The time required to complete the procedure has been shortened. A survey conducted by the Department for Public Administration, assisted by the prefectures, on 90 per cent of Italian municipalities found that in January 2001 49 per cent of the municipalities, accounting for 69 per cent of the population, had instituted the one-stop shop.

In addition to the one-stop shop for businesses, which forms part of the administrative simplification programme, the Government has taken other measures to encourage entrepreneurship:

<sup>(2)</sup> Presidential Decree 440/2000.

- *The one-stop shop for internationalisation*: A single office in Italy to provide information and handle applications for contributions, grants, subsidies, incentives and benefits to support exports and entrepreneurial activity abroad.
- *The one-stop shop for construction*: Introduces simpler procedures, with pre-building controls limited only to projects that have a significant urban-planning impact; for other cases, the possibility of simply reporting the start-up of the project is extended.

Public safety authorisations for industrial and craft activities have also been simplified. Licences are no longer annual but permanent, self-certification of the requisites is allowed, and account books can be kept in electronic form. Procedures to establish the suitability of the premises for theaters and the like have been simplified.

One of the measures taken to monitor the public impact of the reforms has been the institution of a Public Opinion Observatory, assigned to assess the changes produced by the reforms on relations between citizens, businesses and the State. A survey by the Observatory in April 2001 found an improvement in citizens' overall judgment of the reforms and of the public administration. The percentage of respondents giving a positive assessment of the administration rose to 58.7 per cent from 49.4 per cent in 1999, and the perception of the change taking place in the public sector also improved. The percentage of the people who felt that the Government was taking measures to improve public services rose from 60 per cent in 1999 to 67.4 per cent in 2000. The best-known of the reforms, for both private citizens and firms, remains self-certification.

In October 2001 a series of measures were enacted to ease and simplify the administrative burden on firms, abolishing a set of tax and accounting requirements amounting, on an annual basis, to over 190 million obligations <sup>(3)</sup>. The law simplifies keeping procedures of account books and eliminates the taxes on that activity. Law 448/2001 (the Finance Law for 2002) provides for further simplification to the benefit of both citizens and firms <sup>(4)</sup>.

Italy's effort to recoup delays in implementing Community directives continued in 2001. The Commission's Internal Market

<sup>(3)</sup> Law 383 of 18 October 2001.

<sup>(4)</sup> Namely, the bill attached to the Finance law enacting "Provisions in the field of Public Administration" provides for: the 10 year validity of passport; the extension of the self-certification to all tendering procedures in public procurement; the validity of acts submitted electronically to public administration.

Scoreboard <sup>(5)</sup> registered that in November 2001 Italy's transposition deficit had come down from 3.2 per cent in November 2000 to 1.7 per cent (the EU average is 2 per cent, while the Commission target is 1.5 per cent). Italy thus moves from the tenth rank in 2000 to the sixth rank in 2001 <sup>(6)</sup>. Italy is not found in the sectors with the worst deficits (such as environment, public procurement, transport, consumer law, social policy, or telecommunications) but is signaled for non-transposition in health and veterinary care.

As for infraction proceedings, there has been a significant decline in the number of cases pending before the Court of Justice. Among the directives already transposed is the "European employment contract" governing fixed term employment, which lays down general principles and minimum requirements for the signing of such contracts. The transposition of this European directive helps to simplify and rationalise the regulatory framework, bringing Italian legislation more closely into line with the other European countries.

### *Remaining obstacles to trade and cross border investments*

The report of the Institute for Foreign Trade <sup>(7)</sup> shows an upturn in exports in 2000, evident also in the increased number of firms active on foreign markets and in the broader geographical diffusion throughout the country of export business. Foreign trade, both intra-EU and total, increased in proportion to GDP (*see Table 1*).

Provisional data show a net increase of more than 9,000 exporting firms between 1999 and 2000, a gain of 5.6 per cent, signalling the rise of a new generation of small export businesses, especially in the South of Italy. As for cross-border investment, there has been an increase in both outward and inward foreign direct investment (FDI). New Italian investment initiatives abroad numbered 316 in 1998 and 313 in 1999, while FDI initiatives in Italy numbered respectively 101 and 100. The result was an increase in capital inflows and outflows, especially vis-à-vis other EU countries; these were equivalent to 0.47 and 0.40 per cent of GDP in 2000, a sharp rise by comparison with previous years (*see Table 2*). The trend continued in the first eight months of 2001, with

<sup>(5)</sup> Internal Market Scoreboard, november 2001

<sup>(6)</sup> Italy's Community legislation law for 2001 (A.S. 816), currently in the course of Parliamentary approval, provides for the transposition into Italian law of 19 directives adopted in 2000.

<sup>(7)</sup> Available at: [http://sun3000.ici.it/db/edinet/catalogoweb\\_c.nsf/Frame9Collane](http://sun3000.ici.it/db/edinet/catalogoweb_c.nsf/Frame9Collane)



Italian investment abroad worth 14.7 billion Euro, compared with 5.5 billion Euro in the same period of 2000. Foreign direct investment in Italy also increased to 10.4 billion Euro, compared with 5.5 billion Euro in the previous year.

Impediments to a further internationalisation include the size structure of Italian enterprises, the economy's sectoral specialisation, the geographical disparities within Italy, and shortcomings in training and R&D.

With a view to eliminating obstacles to the free movement of goods, an Italian Coordination Centre has been instituted under the Department for Community Policies of the Prime Minister's Office. Its task is to apply Community law, primary and secondary, on the free movement of products. The cases handled by the Centre in the course of its activity mainly concern problems of mutual recognition, technical regulations, incompatibility in standards, labelling and packaging, verification and certification.

In the area of parallel imports, Community legislation on industrial property rights, confirmed by a Court of Justice sentence, enshrines the principle of Community exclusiveness. This regime, without prejudice to the free movement of goods within the EU, provides that the holder of a registered trademark can prevent the import of products under that trademark that are first offered for sale outside the territory of the Union.

### *Competition in services*

The transition towards the service economy has brought the service sector to account for 69 per cent of Italian output and 63 per cent of employment; for the European Union as a whole, the services accounted for more than two-thirds of total employment in 2000. The gap with such countries as the United States, the United Kingdom and France, where the output and employment shares of the services have long been over 70 per cent, has been narrowed. The transition to the service economy cannot be considered completed yet in Italy. Several key problems for the sector remain.

In **wholesale and retail trade**, the National Observatory on Commerce, created under Legislative Decree 114/1998, has built a system to monitor the extent and efficiency of the distribution network (*see Tables 35 and 36*). The Observatory found a positive net balance for the first six months of 2001 of 2,980 additional fixed retail

establishments, continuing the growth recorded since the abolition of the system of commercial licences for such outlets in May 1999.

In regulatory terms, at the end of 2000 18 Regions had passed one or more laws implementing the reform decree, while for Sardinia the decree has been implemented by a government act. All the regional laws highlight the need to shift competence over new commercial establishments from legislation on commerce to that on urban planning, through zoning plans. This could mean the reform would take longer to work its effects. The main impact would be on new large-scale retailers, for which administrative authorisation is required, while the opening of small shops has been liberalised. The rule encourages the purchase and merger of small shops, leading to major changes in retail trade.

The Finance Law for 2002 provides that a fund of about 15 million Euro will be established at the Ministry for Productive Activities for the introduction of information technology into the distribution network of commercial SMEs. A ministerial decree will set the procedure and criteria to have access to the fund.

Italy's network of **fuel distributors** has more outlets than other European countries (24,600 in January 2000 compared with 16,700 in France). It appears that many of such outlets may not fulfill the efficiency criteria set by the national legislation. Moreover, entry by new operators is impeded both by the characteristics of the market, which is vertically integrated from refining to retail distribution, and by the legislation which, until 30 June 2001, required the closure of at least three existing distribution outlets in order to open a new one <sup>(8)</sup>.

The national restructuring plan for the sector, drafted in 2001 by the Ministry for Productive Activities, seeks to solve the problems with a series of guidelines for modernising the distribution network. The aim is to enhance efficiency by closing some 3,000 outlets that are deemed incompatible with the development of the road system and with the rules on safety distances and surface area. A decree laying down the general principles with which the regions must comply in transposing the national plan is going to be approved.

As for **professional associations**, as the EU's Broad Economic Policy Guidelines for 2001 indicated, Italy must speed up the introduction of new regulatory framework. At regulatory level, fees are now deeply differentiated, both in the way in which they are set and in the legislative instruments used in setting minimum and maximum fees, which creates

<sup>(8)</sup> Legislative Decree 32/1998, Article 3.1, as amended by Legislative Decree 346/1999.



disparities between the various professional categories. In its Economic and Financial Planning Document for 2002-2006 the Government sets forth the main goals of reform: *a)* attaining the highest possible quality of professional services; *b)* maximising safeguards for clients; *c)* making the professions as a whole more efficient and competitive. With this in mind, both price-setting systems and entry barriers have to be re-examined.

In **insurance sector**, the market is still highly imperfect, with non transparent behaviour both on the part of companies and customers. The lack of a sufficiently competitive market permits the persistence of inefficiencies that entail high operating costs, preventing price reductions.

The industry is still characterised by direct dealing between consumers and insurance company agents, who account for about 87 per cent of all insurance contracts. Other forms of insurance selling, such as through banks, brokers, or financial salesmen, which could promote a more highly competitive environment, have increased compared to year 2000, but remain rare.

The Government has intervened with the creation of systems of information and orientation for customers, especially for compulsory motor vehicle insurance. The Ministry for Productive Activities, working together with the National Council of Consumers and Clients, releases each semester the prices of all insurance companies.

As a consumer protection measure, it is now possible for clients to decide not to renew their contract right up to the date of expiration if the company requests a premium increase greater than the target inflation rate (1.7 per cent for 2001). If the company raises its premiums by less than the target inflation rate, repudiation of the contract must be notified at least 30 days in advance.

Finally, for more effective prevention of client fraud, since 1 January 2001 the insurance supervisory authority ISVAP (*Istituto per la Vigilanza sulle Assicurazioni Private e di interesse collettivo*) has been operating a data bank on accidents involving the customers of all insurance companies. The data must be transmitted to the insurance companies quarterly <sup>(9)</sup>.

<sup>(9)</sup> Moreover, the simplification Law for 2001 – now under discussion before Parliament – and the Bill enacting “Measures to favour private initiative and competition” (A.C. 2031) provide for reordering regulations in this field. The latter contains also a series of new rules to facilitate payment of damages and eliminate user fraud. Reimbursement of damages by the client’s own insurance company, under the bill, would now be possible even in accidents involving personal injury (slight injury, with disability up to 5 per cent). On the fraud front, the bill states that the person injured has to declare under his own responsibility that he is reporting the truth.

## Public policies having an impact on product markets

### *Competition policy*

In recent years Italy has stepped up its efforts to eliminate barriers to competition, especially in public utilities. Intensifying the opening of markets, in particular in the utilities, ensures that technological progress is not used by firms to increase their market power in other sectors thanks to diversification and possibly the exploitation of dominant positions.

In reporting and advising Parliament, the Antitrust Authority made 18 reports on restraints to competition deriving from existing legislation or bills, many of them involving telecommunications (*see table 42*). The scope of the Antitrust Authority's administrative action was broadened both as regards the abuse of economic dependency and as regards the conduct of firms operating services of general economic interest <sup>(10)</sup>.

In its institutional role for the application of legislation to safeguard competition, the Authority increased the number of actions taken in 2000. Seven investigations into abuse of dominant position were concluded, involving the transport and the telecommunications industries, and investigation led to rulings of infringement of Article 82 of the Treaty of Rome <sup>(11)</sup>.

On mergers and acquisitions, through mid-September 2001 the Authority evaluated 438 M&A operations, 27 agreements and 14 possible abuses of dominant position. This investigative activity (*see Tables 39-42*) had two main thrusts:

1. Markets characterised by essential infrastructure, substantial liberalisation, and the still-dominant presence of a former monopolist; these inquiries looked into the telecommunications industry, air transport, and the possibility for the incumbent energy provider (ENEL SpA) of gaining customer loyalty by offering telecommunications services along with electricity;
2. Restraints on competition in local markets, above all via M&A activity in the supply of goods and services; these cases were the dairy market, large-scale retailing, and credit services.

<sup>(10)</sup> Law 57 of 5 March 2001 (measures concerning the opening and regulation of markets).

<sup>(11)</sup> In the ground handling charges at the Rome airport (Aeroporti di Roma) and the pay TV operators Stream and Telepiù.



Another important area of investigation was violations either of the law (non-compliance with the obligation to notify concentrations) or of earlier Authority resolutions. Actions to foster competition by reporting to Parliament and Government on significant branches of the economy involved local public transport, book publishing, pharmaceuticals charged to the National Health Service, car insurance, and natural gas.

### *State Aids*

The 9<sup>th</sup> Commission Survey on State Aids shows Italy's progressive reduction in state aid to enterprises. Total State aids disbursed between 1997 and 1999 averaged 1.28 per cent of the Italian GDP, basically in line with the EU average of 1.18 per cent. For 1999 alone, Italy was below the EU average. As a percentage of total public expenditure, State aids averaged less than 2.56 per cent in 1997-1999, not far from the EU average of 2.44 per cent and substantially less than the 3.41 per cent average for 1995-1997.

Italy is also moving in the direction required by the Union in the composition of aid by objective. In the three years from 1997 to 1999 it appropriated steadily larger shares of total aid to "horizontal" objectives (R&D, environment and energy-saving, regional development).

The overall data and results on aid to enterprises for 2000 were affected by a series of elements:

- the end of the Community Support Framework for 1994-1999 and the beginning of the new phase of planning of the structural funds for 2000-2006;
- the new notice to the EU Commission and approval of the system of aid for regional purposes;
- the adoption of new EU regulations on structural funds;
- legislation decentralising much aid to the regional level <sup>(12)</sup>.

Between the second half of 1999 and early 2001, changes were also made in some R&D support programmes.

The figures for 2000 revealed a shrinking number of applications from companies (a drop of 44 per cent compared with 1999), essentially due to the "freeze" on all subsidy laws whose management had been devolved to the Regional Administrations. There was a reduction in spending commitments of 26 per cent, broadly in line with the drop in

<sup>(12)</sup> Legislative Decree 112/1998 and amendments to Law 488/1992.

applications. The increase of 28 per cent in appropriations (total appropriations of 16,040 billion Lire for 2000) was due essentially to cofinancing of Law 488/1992 as part of the national plan (PON – *Programma Operativo Nazionale*) for “local entrepreneurial development” with some 2,000 billion Lire from the European Regional Development Fund. There was also an increase of 687 billion Lire in appropriations for the Master Plan (*Contratti di Programma*).

Structural fund planning for 2000-2006 foresees a decrease in subsidies to enterprises, both in percentage and in absolute amount. Greater attention is given to infrastructure, energy, research, environment, and information society projects.

#### *Taxation issues*

Italy's corporate tax system has been undergoing revision for several years now. The Finance Law for 2001 <sup>(13)</sup> enacted tax relief for individuals who undertake a new artistic or professional activity, with the possibility, if fixed requirements are met, of paying a flat rate of 10 per cent on self-employment or business income for the first three years. For those qualifying, bureaucratic procedures are also streamlined, as they are not obliged either to register or to keep books.

The taxation of income for sole proprietorships (individual firms) has been reformed to keep the taxation of enterprises distinct from that of their owners. As to the “disadvantaged” areas, in accordance with the Commission ruling, a tax credit for the period 2000-2006 is allowed to recipients of business income who invest in those areas. Such investment also enjoys a 90 per cent depreciation allowance.

In 2001 the revaluation of corporate assets was approved. Fiscal recognition of the new asset values deriving from this optional revaluation is possible upon payment – in substitution for company income tax and the regional tax on productive activities – of a tax of 19 per cent for depreciable assets and 15 per cent for non-depreciable assets, in instalments over three years. Also, the maximum yearly tax deduction for write-downs of balance-sheet credit assets was raised from 0.5 to 0.6 per cent.

<sup>(13)</sup> Law 388 of 23 December 2000.

As part of the “hundred days” package of the new Government, the first measures in favour of firms included incentives for the regularisation of underground economic enterprises. With the presentation of a declaration of regularisation, the employer is entitled to tax and social security relief for the current year and the next two. The Government’s goal is to make regularisation permanent, thanks also to the certainty of lower tax and social contribution rates in the final system thanks to structural reforms to be enacted in the five-year course of the legislature.

As an investment incentive, the package enacts tax exemption in respect of business or self-employment income of 50 per cent of the amount of investment in capital goods during the current and the next year that exceeds the average investment of the previous five years. This benefit also applies to expenditure for staff training and updating, up to 20 per cent of the wages paid. The reform acts directly at the moment of the investment. More favourable treatment is provided for businesses with the EMAS environmental quality certification.

With the Financial law for 2002 a 3 years tax credit has been made available to all firms taking on new employees in 2002, provided that the firm exceeds the number of employees effectively occupied at 31 December 2001. The law is established in favour of public bodies and private firms of the *Mezzogiorno* area.

The provision has also suppressed the municipal tax on increasing value of estates (INVIM) with the aim of reducing the fiscal burden of citizens and enterprises.

### *Public procurement*

Public procurement has been reformed with a view to cutting expenditure and improving the efficiency of the public sector. The Government has stimulated the introduction of elements of e-commerce through a project based on three principles: the promotion of the new economy, the independence of the public administration, and the simplification and innovation of procurement procedures. Public purchasing now proceeds through a single purchasing centre, *Consip S.p.A.*

Public offices can now execute orders from an electronic catalogue and accede to expenditure analysis via Internet. Thanks to the progressive introduction of Information Technology, it has been possible to test new ways of selecting suppliers, such as on-line auctions. Italy’s first on-line auction for the public administration was held on 7 September 2001 and produced a

savings of 30 per cent in respect of market prices; the leading suppliers in the sector participated. This model has gained growing consensus among those responsible for public administrations, including those not required by law to adopt it, such as municipalities and schools, which have proven most sensitive to the savings made possible by e-procurement.

The Finance Law for 2002 provides that local governments can also become party to agreements signed by *Consip* for central government departments, but does not oblige them to do so. In the event that local bodies conduct their own purchasing, they must take the prices set by those agreements as ceiling prices.

The results have suggested extending this project to new areas of government spending, and in particular to the health care system. "The Project Health" envisages the rationalisation and reduction of spending through the introduction of elements of e-procurement. The project is now being developed, with the launch of a regional purchasing centre scheduled for December 2001. E-procurement has also been extended to public and state-controlled enterprises. The experience of *Trenitalia* shows how auctions can be computerised using a system of passwords that guarantees the secrecy of bids.

## Utilities and other network industries

### *Institutional framework*

The last decade has witnessed a radical rethinking of the role of the State and of public intervention in the economy. The privatisation of public utilities has required the creation of independent bodies to ensure that the advantages of the incumbent (the former monopolist) did not prevent effective pluralism on the supply side.

Independent authorities were created first for energy and then for telecommunications. Their action flanks that of the Competition Authority (for the human and financial resources of the independent authorities, see *Table 38*).

The energy sector is regulated by the Italian Electricity and Gas Authority <sup>(14)</sup>, an independent body mandated to foster competition and

<sup>(14)</sup> Instituted by Law 481/1995.

efficiency in the electricity and natural gas industries. The scope of the Authority's regulatory powers embraces pricing, levels of service quality, and the technical and economic conditions of network access and interconnection. Its mandate also includes directives for accounting and administrative unbundling of the various stages in the production and supply of electricity and natural gas.

The Authority for Communications <sup>(15)</sup> oversees telecommunications as well as broadcasting and publishing. It is one of only five regulators among OECD countries with regulatory powers over the entire communications sector. This counters the risk of regulatory fragmentation in an area marked by extremely rapid technological changes.

In the **electricity industry** steps have been taken towards completing the regulatory framework traced out by the liberalisation decree <sup>(16)</sup>. In May 2001, with the approval of the electricity market regulations by the Ministry for Productive Activities, with the favourable opinion of the Electricity and Gas Authority, a crucial stage in the realisation of the new competitive electricity market was opened.

The regulations define the tasks of the Market Operator and the operation of the electricity market, specifying the structure of the electrical power exchange (*Borsa dell'Energia Elettrica*). The exchange will provide for several trading "moments" to allocate the electricity exchanged. It will be flanked by ancillary markets such as that in financial derivatives linked to the "physical" trading in electrical power. The electrical power exchange may favour the gradual reduction in energy prices, provided that the industry becomes more competitive.

The industry structure set forth in the liberalisation decree provides initially for two demand segments: "eligible" customers that can stipulate supply contracts directly with the generating companies, distributors or wholesalers; and customers that cannot yet do so. The latter will be served by a "Single Buyer" whose task is to supply electricity to "captive" consumers at the best available price. In May 2001 the Ministry for Productive Activities approved a directive on the operation of the Single Buyer.

The number of eligible customers has more than doubled in less than a year, to 1,300 in November 2001, accounting for about 40 per

<sup>(15)</sup> Instituted by Law 249 of 31 July 1997.

<sup>(16)</sup> Legislative Decree 79/1999.



cent of total demand. Eligible customers will increase in number to 150,000, accounting for 60 per cent of total consumption, once the sale of the generating companies (or "GenCos") has been completed and the eligibility threshold lowered to 100,000 KWh a year.

As to supply side diversification, significant progress was made in the sale of the three generating companies formed by ENEL. In July the sale of Elettrogen to the consortium consisting of Endesa, Banco Santander Central Hispanico, and Asm Brescia was concluded for a final price of 2,630 billion Euro. Procedures were also initiated for the sale of Eurogen, which with 7,008 MW capacity is Italy's second-leading generator after *ENEL Produzione*.

The Authority has issued a resolution setting the amount of recognised revenues for each of the generating plants of Eurogen and Elettrogen for the years 2000 and 2001, providing for annual adjustment of these revenues. The amount is the basis for calculating stranded costs <sup>(17)</sup>.

Another important step to ensure greater competition, allow the entry of new generating companies, and encourage investment was taken on 5 October with the approval of a Presidential Decree simplifying and accelerating procedures for the construction, modification, or repowering of large-scale generating plants (those with capacity greater than 300 thermal MW), in complete observance of environmental protection rules.

On the distribution side, rationalisation was begun and the initial concessions for power distribution by a single distributor for each municipality were granted (to date, 47 concessions covering 67 municipalities) to companies other than ENEL. The rationalisation of power distribution was begun by sale of ENEL grids to the local distributors. In other cases, there have been voluntary mergers between ENEL and the local distributor, creating new, mixed companies.

Finally, the Government enacted a decree-law <sup>(18)</sup> to safeguard reciprocity on the rules for market opening between the different EU member countries and not to cause distortions that could create asymmetries in the liberalisation and privatisation of the sector. The

<sup>(17)</sup> Special ministerial decrees dictate that the Electricity and Gas Authority shall determine the grants necessary to each plant to cover its stranded costs following the liberalisation of the electricity market and the replenishment of the unrecoverable portion of costs incurred for power generation, as well as the wholesale price of electricity sold on the market (see Authority resolution 114/01).

<sup>(18)</sup> Decree Law 192 of 25 May 2001, converted by law 301 of 20 July 2001.



decree law places restrictions on the granting of authorisations or concessions. Specifically, if the applicant is controlled directly or indirectly by a national government or other public administration and has a dominant position in its own national market, its voting rights are limited to 2 per cent.

On electricity imports, the Authority has ruled that all applications for interconnection will be accepted but that no company can hold more than 5 per cent of the total import capacity or 10 per cent of the capacity over any given border.

The creation of a European power market with adequate interconnection between States will require stepped-up co-operation between Member State regulatory authorities to devise a regulatory framework that stimulates investment and fosters the efficiency of transmission systems.

In the **natural gas industry**, the Legislative Decree for liberalisation <sup>(19)</sup> established the key principles governing market opening. The Decree imposes stringent requirements for accounting and corporate unbundling, opting for a regime of access to the network and to network services regulated by the Authority and thus accelerating the opening of a free market. Among the regulated activities are transport and despatch, which are exercised through the pipeline network as part of the national natural gas system; storage, conducted under concessions (granted by the Ministry for Productive Activities) that cannot last for more than twenty years; distribution, which is a public service assigned exclusively through public tender (for a period of no more than 12 years). The reform of the natural gas sector has been completed in the past year by a series of implementing measures affecting both the structure of the market and pricing.

The liberalisation of the natural gas market implies free access to the transport network for “eligible customers,” i.e. those fulfilling the requirements to be able to choose their gas supplier. The implementation of third party access (TPA) has called for determining a price system, introduced by an Authority resolution in May 2001 and given definitive approval in September, and a network code establishing the technical rules for physical access, to foster efficiency and increased investment. To facilitate third party access and change of supplier, the Authority

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<sup>(19)</sup> Legislative Decree 164 of 23 May 2000.



passed a resolution in August recognising that eligible customers may rescind existing contracts, a right previously not contemplated.

With a view to unbundling the transport and despatch of natural gas from the other activities of the industry (supply and sale), which the law requires starting from January 2002, ENI's Snam natural gas subsidiary divested its natural gas transport network in Italy six months ahead of the deadline. As of 1 July 2001 the new company thus formed, *Snam Rete Gas*, was assigned the Italian natural gas transport and regasification infrastructures that had been owned by Snam. Under the Authority's resolution, the Authority itself determined the recognised value of the transport assets conferred upon *Snam Rete Gas* at 9,5 billion Euro. At the end of 2001, 40 per cent of *Snam Rete Gas* has been listed on the Stock Exchange.

The Ministry for Productive Activities has intervened by decree in significant segments of the gas market. An especially important measure was the identification of the national network of gas pipelines, which will be accompanied by a series of technical norms to permit interconnection and interoperability. A number of measures involved storage, with provisions concerning the determination and distribution of strategic reserves and the handling of emergencies during the operation of the gas system to guarantee the functioning of the system and customers' needs for modulation.

To facilitate the extension of the network, new rules also simplified and unified administrative procedures for the construction of gas pipelines. The new transport prices set by the Electric and Gas Authority offer incentives for new investment by transportation firms and price discounts to customers where they can help strengthen the network or create new link-ups.

As regard imports, the Ministry for Productive Activities issued 15 authorisations to import natural gas from non-EU countries. The authorisations, issued under objective and non-discriminatory criteria (technical and financial criteria, and standards for supply guarantees and storage capacity), represent the first application of the new system installed by the rules for the opening of the natural gas market. They serve to qualify companies potentially capable of procuring gas at the border, which will join the present importers (ENI, ENEL, and Edison Gas).

The new system of prices envisages unbundling of distribution from sale to captive customers. The distribution tariff, referring to an activity that will be carried out in local monopoly conditions, will be

valid even after the complete opening of the market scheduled for 1 January 2003, while prices for sales to captive customers will be applied until the end of 2002.

The new distribution prices are determined according to price zones (consisting of the group of localities served by any given distribution plant) and are calculated under a price-cap formula. This takes account of the main cost components (such as number of customers on the network and the length of the gaslines), and the ceiling on revenues is adjusted yearly to reflect the increase in the number of customers and the expansion of the distribution network, inflation, and a pre-set recouping of productivity for a period of three years.

Price-setting for gas distribution is necessary to the opening of the market, in that it is applicable to the use of the distribution network by third parties to sell gas to eligible customers. The measure adjusts prices to costs, reducing excessive geographical disparities; it separates distribution from final sale, thus permitting the liberalisation of these activities; it prepares the price system for the exercise of free choice of supplier by all consumers.

The new system envisaged by the Authority is based on unbundling of the total revenues from transportation, storage, and regasification. This, together with the forecast increase in consumption in Italy, will contribute to a gradual decline in unit prices.

Market liberalisation will be further favoured by incentives for better utilisation of network infrastructures by carriers. Given the criteria and limits in place, the companies possessing transportation networks have submitted their prices to the Authority, which has approved them for the 2001-2002 thermal year. The new "entry-exit" pricing system is based, as the name implies, on charges levied at the points of entry to and exit from the national gas pipeline networks and a charge for capacity engaged on regional networks (with a "postage stamp" tariff with reductions proportional to distance for pipelines less than 15 kilometres away from the national network).

The Italian **telecommunications industry** has been particularly dynamic in terms of entry of new operators and extension of the services available to users. This has been reflected in the swift evolution of regulations, adapting technological progress to guarantee competition, especially in access to local infrastructure.

The last year has seen measures to complete and reinforce liberalisation together with a good number of structural measures. The



latter have borne primarily on the effective implementation of unbundling of the local loop of the dominant carrier, which is essential to liberalisation of the "last mile". This will enable final users to choose an operator other than Telecom Italia for the entire range of telecommunications services.

Even in the early part of the year Telecom's competitors were given access to a potential base of 9 million telephone customers and could thus compete with the incumbent in a market embracing about a third of all subscribers. By June 2001 about 1,000 contracts were in place, a number that is expected to rise significantly with the completion of the Telecom Italia switching centres where competitors can locate the equipment through which to serve final users directly. Today, after an experimental phase, access is being fully implemented under a special monitoring unit.

The regulations permitting network access not by physical infrastructure but via radio signal, known as wireless local loop (WLL), were prepared during the year, with the drafting of rules for regional auctions for the assignment of frequencies. To safeguard competition and foster the balanced increase of competition in the supply of fixed telecommunications networks, the Authority enacted several "asymmetrical" measures accompanying the rules on assignment of single and multi-point frequencies in the 26-28 GHz band (the WLL system).

To guarantee market entry on the part of licence-holders that do not already have substantial market power in the supply of fixed public telecommunications networks, on 10 October the Authority placed the following obligations on carriers that do have significant market power:

- 1) a waiting period of 48 months before offering wireless local loop service to final users;
- 2) sufficiently disaggregated accounting unbundling, with formal documentation of the negotiations on all the main transactions between the main corporate divisions or units involved.

One of the most important instruments for completing voice telephone liberalisation is the carrier preselection by the final user. The Authority's rules in this area have made it possible to reach some 2 million preselected lines, i.e. 2 million subscribers to carriers other than Telecom Italia.

Experimentation was begun in 2001 with mobile phone number portability, one more step towards a fully competitive market.

Portability means the user can keep the same telephone number when he switches to a different mobile operator or when he switches to a different GSM or UMTS service. The objective of the experimentation is to make this service operational by 30 April 2002. A special unit has been formed to monitor progress in implementation of portability and to verify initial offer terms. As to the portability of numbers in fixed telephony, by the end of June 2001 some 3,000 numbers had been activated.

In January 2001 the Authority concluded the issue of the five UMTS licences, assigning their frequencies.

The Communications Authority has required Telecom Italia to activate, starting no later than 31 January 2002, a new cost-free service providing information on the prices of public phone calls, accessible 24 hours a day, from all public telephones in Italy. This will allow consumers to learn of changes in the cost of calls from public telephones in real time, also considering the imminent changeover to the euro.

In **railways**, according to the European directive, Italy has liberalised all segments of rail transportation and enacted not only accounting unbundling but also corporate separation. On 1 July 2001 *Rete Ferroviaria Italiana* (RFI) was established to manage Italian railway infrastructure, its mandate being to ensure efficiency, safety, and technological development of the rail network. Thus the state railways have completed their economic, financial, and productive reorganisation.

The international segment was liberalised in 2000 and 19 licenses assigned, legally opening up this sector to competition (see *Table 25*). In June, with the introduction of the 2001 summer timetable, the first private companies were authorised to operate international freight trains. In September the first company holding the RFI's safety certification, *Ferrovie Nord Milano*, began operations on the route between Italy and Belgium, followed in October by Rail Traction Company, which will operate between Verona and Munich.

It is now possible to authorise qualified railway enterprises to engage in both passenger and freight transport over the entire national rail net <sup>(20)</sup>. The national or long haul system is thus now organised as competition "in the market," while in the regional and medium haul sectors, carriers

<sup>(20)</sup> This possibility was introduced by Law 388 of 23 December 2000 (the Finance Law for 2001).



compete “for the market”. To date, nearly all the regions have signed service contracts with the regional transport division of *Trenitalia*, and complete implementation of Legislative Decree 422/1997, providing for decentralisation of local rail transport, is drawing near.

Open, non-discriminatory access to infrastructure is essential to more rational use of these resources. Italy's new rules, in this regard, have in some ways anticipated the recent EU “Infrastructure Package” enacted with Directives 2001/12, 2001/13, and 2001/14 by abolishing the concession method and opening the entire market to competition under conditions of reciprocity.

The new Master Plan for 2001-2005 between the Transport Ministry and *Ferrovie dello Stato S.p.A.*, approved by the Interministerial Committee for Economic Planning (CIPE), introduces mechanisms for selecting investment associated with economic and financial evaluations, distinguishing projects that are primarily social in nature <sup>(21)</sup> from commercial ones. For the latter, joint public and private financing is envisaged.

The regulations governing **postal services** were revised with transposition of the EU directive on postal service liberalisation <sup>(22)</sup>. Under the new legislation, the supply of universal postal services is assigned to *Poste Italiane S.p.A.* for a period of fifteen years. The services defined as “universal” <sup>(23)</sup> must be provided permanently, and of a predetermined quality, throughout the national territory at prices accessible to all users.

In the course of 2000 the Ministry of Communications, as the regulatory authority for postal services, took the measures required to complete implementation of the liberalisation decree, issuing a regulation concerning individual licences (to provide to the general public non-reserved individual postal services falling within the scope of the universal service) and another on general authorisations (to provide to the general public postal services not falling within the scope of the universal service).

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<sup>(21)</sup> Such actions consist mainly in geographical equalisation and fostering economic development in selected parts of the country.

<sup>(22)</sup> Legislative Decree 261 of 22 July 1999, transposing Directive 97/67/EC.

<sup>(23)</sup> The service comprises: the collection, shipment, sorting and delivery of letters and envelopes up to 2 kilos in weight and of postal packages up to 20 kilos, and services relating to registered and insured letters.



The Ministry of Communications confirmed *Poste Italiane*'s concession for the universal postal service, exactly repeating, in whole, for the entire duration of the concession, the specification of the content of the universal service, the quality, transparency and price equalisation requirements, and the requirement of accounting unbundling <sup>(24)</sup>.

In the first half of 2001 the Ministry set the "General conditions of service" and approved the decree on the "Public postal service charter of quality". The general conditions define the procedures for supplying universal postal service in two distinct segments (letters and packages). The Charter of Quality rehearses the quality targets and the service's undertakings vis-à-vis customers, in a framework of transparency and simplification of service procedures.

The Ministry of Communications set a ceiling of 5,16 Euro on the charge for shipment of ordinary packages (up to 20 kilos) within Italy under the obligations of the universal service obligation <sup>(25)</sup>.

**Local public services** are now undergoing far reaching innovation in organisation and operation (for a summary of the sector see *Table 34*). Greater operating independence is being accompanied by rapid transformation of providers into joint stock companies and a marked trend to growth in size and output. The movement of local public service companies towards market is reflected in the rising number of local corporations: 90 in 1998, 151 in 1999, and 405 in 2001. Pending a comprehensive reform, the sector has been swiftly transformed in step with institutional and administrative developments. In particular there has been an accelerated innovation, essentially on the organisational and management side, together with a further opening of the market to ownership assets not exclusively public.

The Finance Law for 2002 (art.35) establishes that the local authorities will retain the ownership of the network and infrastructure necessary for the operation of the public services. The network management can be conferred by the local authority to joint stock companies, in which it retains the majorities of stakes, or to firms selected through public procedures.

Service provision is to take place under a competitive regime through procedures of public tendering. Firms that already manage local

<sup>(24)</sup> Decree of the Minister of Communications, 17 April 2000.

<sup>(25)</sup> Resolution of the Ministry of Communications, 18 April 2001.

public services, in Italy or abroad, under a direct entrustment are not allowed to participate to the bids.

Innovative elements have accordingly been introduced in **local transport** <sup>(26)</sup>, providing for the first time a clear separation of the functions of planning and regulation (under the power of the local government) from that of service management. In addition, local firms (*aziende speciali*) are required to incorporate as joint stock companies.

As to market access, starting in 2003 competitive methods for assigning services will be mandatory, in order to enhance operating efficiency and cut costs, while improving quality. The transposition of the original reform has been completed by all regions except Campania, but the adaptation of regional laws to subsequent modifications <sup>(27)</sup> has been enacted by only six of the fifteen relevant regions, just one more than in 2000. Thus though they have passed the transposition of the reform, the regions are frequently behind schedule in planning and setting minimum service standards. Similarly, local governments have often transformed special agencies into joint stock companies, but half of them are late in signing service contracts.

In planning (approval of network and service planning instruments, price integration, strengthening of administration) and in regulation (service contracts and tenders, above all), the slowness of regions and local governments is evident, although there are marked differences from one to another.

As to the requirement to transform agencies into limited companies, a survey by *Federtrasporto*, ASSTRA and ANAV found that as of 31 March 2001 about 77 per cent of the agencies had been so transformed and another 14 per cent had begun the procedure, for a total of 93 per cent of local transport bodies. At present public providers are clearly prevalent in urban transit (90 per cent of the service); in extra-urban transport the situation is more evenly balanced, with private providers, mostly small and tiny carriers, operating around 50 per cent of the services. Whether private or public, the operators are often bound to a given territory. Only one firm is present in a variety of regions. So far very few tenders have been conducted, and they have already given rise to several alliances, albeit in connection with the particular calls for tenders.

<sup>(26)</sup> Legislative Decree 422/1997.

<sup>(27)</sup> Specifically, Legislative Decree 400/1999, which amended L.D. 422/1997.





The reorganisation of local **water services** has got started through the institution of district water Authorities.

However, implementation of the law <sup>(28)</sup> has been very slow, and only recently first changes in the industrial structure of water supply appeared. Pending the full entry into force of the reform, water prices are under the control of the Interministerial Committee for Economic Planning (CIPE), which adjusts prices to be charged by all operators providing water services outside the integrated water service in the given district. The organisational and operational impact of the reform is still limited. Service operation continues to be highly fragmented among a large number of different operators. Although one of the purposes of the reform was to end direct operation of these services by municipalities, that remains the most common form, especially in sewerage services.

Now, six years after the original reform law, implementing laws have been passed by all the regions. These laws have identified a total of 89 Districts, within which there now operate, in various capacities, some 8,100 entities. During 2000 a total of 12 Optimal Management Areas (ATO) drew up their District plans.

The Ministry for Environment recently issued a decree implementing Article 20 of the Galli law, laying down procedures for assigning integrated water management services to third parties extraneous to public administrations (that is, to totally private parties). In line with EU regulations, the assignment of integrated water management services must be effected by public tendering, taking the most economically advantageous bid. The evaluation of the bids must take account, among other things, of the environmental impact of the service.

**Urban waste collection and disposal**, which is treated in greater detail in the supplement on environmental questions, still requires administrative and procedural simplification as well as the design of a more effective, co-ordinated set of controls.

#### *Progress in market opening*

Total electricity demand in Italy was 297.7 TWh in 2000, an increase of 4.1 per cent compared with 1999; 85 per cent of this was generated in Italy and 15 per cent imported.

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<sup>(28)</sup> Law 36/1994, known as the "Galli Law".

Thanks to the funding recently obtained by the European Commission for new interconnection lines with Switzerland and Austria, the import capacity of the Italian domestic grid will be increased of 2,200 MW (from the present 6,000 MW).

To analyse the progress in opening and the degree of competition in the electricity market, we consider four main segments: generation, transmission, distribution, power supply. ENEL remains the dominant operator in all four segments, although its market shares are progressively diminishing. The final data for 2000 show that the ENEL group, with its 182.5 TWh of net generation and 56,348 MW of net efficient capacity, accounts for:

- 77.4 per cent of net production (69.5 per cent counting self-consumption);
- 74.3 per cent of net efficient installed capacity.

The capacity is distributed as follows: *ENEL Produzione*, 38,917 MW; Eurogen, 7,008 MW; Elettrogen, 5,438 MW; Interpower, 2,611 MW; Erga, 1,594 MW; Valgen (a generating company formed in Valle d'Aosta with the local power company), 780 MW. After the disposal of the three GenCos (Eurogen, Elettrogen and Interpower), the ENEL group will have capacity of about 40,500 MW <sup>(29)</sup> or 55 per cent of the country's total net efficient installed capacity.

In the transmission segment, *Terna* (the ENEL group company that owns the national transmission network) holds 89 per cent of the 380-220 kV lines and 85 per cent of those at 150, 132 and 120 kV.

In the distribution segment, *ENEL Distribuzione* holds 80 per cent of the medium and low voltage distribution grid. In 2000, the disposal of some parts of ENEL's distribution grid in some municipalities was completed, under the terms of the liberalisation decree. Major cities having completed this disposal are Trieste, Parma, Milan and Rome; in Turin, negotiations for the sale of the grid have begun. The progressive increase in the number of customers switching to the free market has reduced ENEL's sales volume by 12.4 per cent. The ENEL group's total sales on both free and captive markets declined by 8.3 per cent in the first quarter of 2001 compared with the same period of 2000.

In supplies to eligible customers (the free market), the tendency in the last year has been for customers to turn to wholesalers rather than

<sup>(29)</sup> ENEL's 38,917 MW plus 1,594 MW of ERGA.

purchase electricity directly. Nevertheless, the ENEL group retains a dominant share in free market sales, with ENEL Trade still accounting for 40.5 per cent of that market (see *Table 8*).

In the captive market, *ENEL Distribuzione* supplied 92 per cent of all customers and accounted for 97 per cent of sales, a slight reduction compared with the previous year.

The **natural gas market** registered consumption of 70.1 billion cubic metres in 2000, an increase of 3 per cent; the prospect is for a contraction of more than 3 per cent in 2001, owing mainly to the power generation sector and in part to household uses.

In this sector, the liberalisation decree has spurred ownership reorganisation, with a view to sharper competition. Signs of the changes brought by the reform are the many mergers between small distributors and the new industrial policy of the leading Italian energy groups. These groups have increased their market shares in this segment by taking over a large number of distributors. In addition, some distributors have gathered in consortia in order to achieve the threshold of eligibility to compete in the domestic gas market. Market opening has also created the conditions for industrial gas users to form consortia to buy gas on more competitive terms.

In terms of ownership (see *Table 9*) the forms and varieties in the local distribution segment are numerous, with a slight preponderance of private ownership (between 55 and 61 per cent of the cases) and a substantial role for mixed ownership. Another characteristic feature of the distribution sector is the strong role of local governments, which held 40 of total equity in this sector in 1998.

In **telecommunications**, simple quantitative indicators <sup>(30)</sup> show that in the telephone industry Italy has a more competitive market than the European average. In mobile phones, the Italian market remains highly dynamic. At the end of June 2001, Tim and Omnitel were Europe's leading and fifth-leading operators with 22.6 million and 15.1 million active lines, respectively <sup>(31)</sup>.

<sup>(30)</sup> Number of fixed voice telephone carriers; number of mobile operators; market concentration index.

<sup>(31)</sup> At that date, the other leaders were: Tmobil, 22.1 million; Mannesmann, 19.5 million; France Telecom, 15.9 million (based on data from Global Mobile).

With the consolidation of Wind and the growing presence of Blu, Tim and Omnitel have been slowly losing market shares (see *Table 22*). On 31 July 2000, when Blu still had no customers, the two leaders had 92 per cent of the market <sup>(32)</sup>; this dipped to 83 per cent in June 2001 <sup>(33)</sup>. The Herfindal-Hirshmann index, representing developments in the mobile phone industry in recent years <sup>(34)</sup>, declined from 9,700 in December 1995 to 3,800 in June 2001 (see *Table 21*) <sup>(35)</sup>.

In October 2000 the auction for UMTS licences ended with the assignment of licences not only to the three companies already present in the GSM sector but also to two new entrants: the Ipse consortium and Andala.

The liberalisation of the fixed telephone market continued in 2000. A large number of companies are now in a position to provide services to final users. Confirming the gradual elimination of entry barriers, the number of interconnection agreements in place rose from 67 in 2000 to 108 in August 2001. This development has been encouraged by the low cost of interconnection, which is less than the European average.

Given the results of the last year and the successful introduction of carrier preselection it is expected that, thanks to local loop unbundling, competition will strengthen in the coming months. The number of operators with telecommunications licenses was 167 in June 2001; at the end of October the total number of licenses issued was 232. The heightened competition has been reflected in prices. As for price rebalancing (see *Table 17*), the data underestimate the actual change in prices on the Italian market. In fact many Telecom Italia customers have opted for personalised pricing plans with lower per-minute charges. On the other hand, a significant part of overall traffic is now carried by competitors at more competitive terms than standard Telecom charges. The comparison with the incumbent's charges (see *Table 18*) uses standard rates and similar tariffs plans offered by the major carriers which, with a fixed monthly charge, offer lower than standard rates (see *Tables 19 and 20*).

Recently the Authority for Communications, noting scant competition in the leased lines market, passed a resolution for the

<sup>(32)</sup> Data from Mobile Communications.

<sup>(33)</sup> Data from Global Mobile.

<sup>(34)</sup> The HH index represents the market concentration. Its diminishing means an increase in competition.

<sup>(35)</sup> Based on data from Global Mobile.

introduction of leased line wholesaling by Telecom Italia. These lines should be made available not only to other carriers but also to Internet providers at lower prices than those applied to the general public. Telecom must price these lines on a “retail minus” basis, i.e. subtracting from its price for the general public the costs of marketing and customer management.

In the Internet market, greater competition will be stimulated by the decision of the Authority which allows the introduction of FRIACO (*Flat Rate Internet Access Call Origination*) interconnection service. This model of unmetered interconnection <sup>(36)</sup> will enable operators to offer new Internet access services and will encourage further Internet development in Italy.

In **public transport** the process of market opening can concretely start only when calls for tenders are made. After the transformation of the old municipal firms into joint stock companies, a process of mergers of both public and private companies got under way to form enterprises large enough to compete in the tenders that will be held in coming years. The principal aim of this process has been to consolidate and strengthen the enterprises' presence in individual districts. This trend, together with the tendency of local governments to hold tenders for a single geographical area and to confer estate property (garages, workshops) upon public operating companies, could result in entry barriers against new operators.

In **postal services** a significant progress is the steady contraction of the portion of postal service revenues produced by services reserved exclusively to *Poste Italiane S.p.A.* It is estimated that the share of the corporation's turnover deriving from former monopoly services has fallen from 73 per cent in 1997 to 66 per cent in 2001 (see *Table 16*). The proposal for an amendment to Directive 97/67/EC, of 15 December 1997) now under review of the European Council and Parliament, would entail a significant further reduction of the monopoly area beginning in 2003, and in subsequent years the reserved sector is expected to be completely eliminated.

<sup>(36)</sup> The flat rate interconnection positively affects the amount of costs sustained by the interconnection operator to pay the access operator (in this case the Telecom Italia). It is also an essential condition to provide consumers with Internet access services on a flat rate basis.



*Indicators of qualitative aspects of the liberalisation process*

The Electricity and Gas Authority conducted its fourth annual survey of the **electricity industry** in 2000 to check operators' compliance with the standards laid down in the Service Charters and compare service quality with the commercial quality levels established by the Authority. These standards, which are uniform through Italy, have the main scope of reducing the quality disparity between North and South. This is the context in which to view the investigation of ENEL Distribution on a charge of having provided false information on the duration and number of outages in Campania, Calabria and Sicily in 1998 and 1999. Upon conclusion of the investigation, the company was fined 90 billion Lire.

The Authority's survey has found that only a small number of customers request reimbursements in cases of failure to comply with quality standards, so the reimbursement procedures are little used. The failure to take advantage of the reimbursement procedures is mainly due to citizens' lack of awareness of the Service Charter. Since 1 July 2000, in any event, an automatic reimbursement procedure is envisaged in case of non-compliance with specified national commercial quality standards. Despite the scanty awareness of the Service Charter on the part of public, the number of customers whose provider has adopted one came to 32.3 million in 1999, or 99 per cent of all low-voltage users.

Reliability has improved. The number of long unannounced outages on ENEL's national grid declined from 4.8 per customer in 1996 to 3.8 in 1999 (*see Table 26*). However, the improvement has not been uniform: while service has improved in both North and South, it has deteriorated in the Centre.

The average response time to customer requests (*see Table 28*) did not change significantly between 1998 and 1999. There was a slight deterioration of ENEL's performance in all categories, while remaining in the boundaries of quality standards. As regards small local distributors, their performance generally improved between 1998 and 1999.

In the **natural gas industry**, the Authority's new regulations set specific and general levels of commercial service quality for the distribution and sale of natural gas, setting new uniform national quality standards that are mandatory for all suppliers with more than 5,000 customers.

In 1999 a check on adoption of Service Charters found that 493 providers had them. Most of those without such Charters are small businesses with fewer than 10,000 customers. As to observance of



standards, the number of cases of non-compliance is limited (*see Table 29*). About 50 per cent of medium-sized suppliers were up to standard, compared with 40 per cent of small suppliers. However, in terms of the average time needed to meet customer requests, there was a general improvement between 1998 and 1999 in nearly all kinds of service and for all three size categories. The amount of compensation to customers for poor service increased in 1999, although the number of reimbursement procedures is still too low. The Authority accordingly plans to introduce automatic reimbursements in case of failure to comply with national commercial quality standards.

In December 2000 the Authority approved new regulations on safety and continuity of gas distribution service. The aim is to safeguard people and property, to make for uniform safety and reliability standards in gas distribution everywhere in Italy and to protect the environment by reducing leakage of natural gas into the atmosphere.

In **telecommunications**, the swiftness of technological change requires constant monitoring by the Authority of a series of aspects that are essential to market opening. The Authority has created a unit to test, define and implement a system for monitoring interconnection service quality and problems in interoperability of interlinked networks.

In January 2001 a public consultation on telecommunication services to users was initiated; based on the results, the Authority is drafting directives on general service quality levels.

Quality standards in **postal services** have also improved notably in recent years. In the first half of 2001 (*see Table 30*) the percentage of deliveries within standard increased for nearly all types of service. Further benefits for consumers should come thanks to the Quality Charter, which is intended to provide customers with transparent information on the quality standards and the main features of postal services, as well as on complaint and reimbursement procedures.

In **public transport**, the competitive tendering already made and those scheduled should significantly improve service quality for customers. In general, the threat of competition has already resulted in an improvement in the accounts of public transit operators and greater attention to quality, especially with the approval of Service Charters. However, a survey by Istat has found that users' degree of satisfaction with urban transit is generally poor. Respondents assigned an average grade of 5.8 out of 10. The main problems are low frequency of buses and ticket prices, although it must be said that prices are actually very





low. Moreover, since 1993 customers' evaluations have improved progressively. The gain has been practically constant, presumably due to improvement in the quality of service (*see Table 31*).

The share of users who are satisfied with **railway service** decreases from North to South and is higher in cities. On a scale of 1 to 10, the overall judgement on rail service has improved to an average of 5.9; more than 65 per cent of users assigned a grade of 6.0 or higher.

The first Service Charter introduced a set of some 80 indicators, which serve as an element for dialogue with users and a factor for transparency. The 2001 Service Charter introduces a large number of new parameters, bringing the total to over 160, and adapts others in form and level of representativeness of the service components. Specifically, the indicators used by the Passenger Division of *Trenitalia* to measure medium and long-haul performance were increased substantially in number, and they have been united with those for measuring and monitoring the price cap.

Passenger train punctuality in 2000 regained the levels of 1995-1996, the highest of the past five years (*see Table 33*). In the medium and long-haul segment, the percentage of trains on time (i.e. less than five minutes late) rose by 5 points, from 68 per cent in 1999 to 73 per cent in 2000. The improvement as regards the 15 minutes mark was less pronounced, from 86 to 87 per cent. For the Regional Transport Division, the percentage under the 5 minutes mark rose from 85 to 86 per cent; 96 per cent of trains arrived less than 15 minutes late.

As regards safety, the number of "typical" accidents (i.e., those relating directly to rail traffic) decreased from 100 in 1999 to 95 in 2000 (*see Table 32*). The number of "typical" accidents per million train-kilometres dipped from 0.30 to 0.28, confirming the positive trend of recent years, while the number of people involved fell from 52 dead and injured in 1998 to 40 in 1999 and 33 in 2000.

The quality of **water management** is especially important among the public services, given its major territorial impact. A survey conducted by Istat found that an average of 14 per cent of users suffer irregular water supply. The situation worsens as one moves from North to South, affecting 3.9 per cent of households in Trentino-Alto Adige and 45.2 per cent in Calabria. By size of municipality, service interruptions are less common in larger towns and are particularly rare in metropolitan areas (7.7 per cent) but also in towns of less than 2,000 population (12.1 per cent). The survey also found a certain degree of

dissatisfaction with sewer services (30.7 per cent of respondents), in nearly all the regions. Dissatisfaction was worst in the South, especially in Campania (46.5 per cent) and Puglia (43.9 per cent).

*The benefits in terms of price*

Developments in the product markets, spurred by technological changes, have led to increasing demand for quality on the part of users, a demand that must be carefully weighted in adapting the regulations governing network industries. In the last few years, with the liberalisation of the **telecommunications** market, consumers have benefited from a progressive reduction of prices and a considerable expansion of available services, broadening the range of choice.

For all the telecommunications prices observed by Istat, an average reduction of 1 per cent is expected for 2001. Although in recent years the price decline in this sector has been less sharp than in other European countries, the data for the summer months of 2001 indicate alignment with the euro area average reduction. The price cap for this year envisages a 2 per cent decline in the price of a basket of voice phone services offered by Telecom Italia.

With market liberalisation and heightened competition, there has been a considerable increase in the number and range of services offered. While this has been a powerful impetus for the development of the TLC market in Italy, at the same time it makes it more complicated for customers to evaluate and compare the various offers and prices. The Authority has accordingly focused increasingly on such issues, with a special "Transparency Project" to create an Observatory with a mandate to make the telephone services offered more comprehensible via a web site detailing the prices practised by all carriers.

Among the most recent initiatives for transparency in telecommunications services has been the issue of guidelines for informing the public of terms for TLC services. The guidelines also give general and specific indications regarding the changeover to the Euro.

In the **electricity** and **gas market** the price benefits for consumers have not yet fully materialised, owing to the sharp rise in crude oil prices, which has been reflected in the portion of the overall charge linked to raw materials costs (*see Tables 10-13*). Nevertheless, the mechanism of price adjustment adopted by the Authority will curb the rise in raw materials prices and stretch out the effects on the final price. In 2000, while *Confindustria's* index of fuel prices in Lire rose by 85 per cent, electricity prices rose by 8.2 per cent and natural gas prices by 10.7



per cent. This year the average rise in electricity and gas prices is expected to be much less, giving a contribute to the rise in the consumer price index equal to half the 2000 level.

The reform of electricity tariffs enacted by the Authority, which goes into effect on 1 January 2002, remodulates base rates and fixed monthly fees, both according to wattage and according to customer. The new schedule will reduce price dispersion; the old system did not take account of the cost connected with voltage level. The protection of the weaker users will be assured by linking the price for low-voltage users to income. Any resulting price increases for households will be offset by the reduction of the oil price linked component.

### **The use of market based instruments to protect and improve the environment**

#### *Environmental tax instruments in the main network industries and utilities*

Since 1996 Italy has been engaged in an effort to introduce ecological taxes in line with the Kyoto Treaty. These measures are intended to improve the environmental efficiency of production in the main network industries.

In the **energy sector** the main fiscal tool is the carbon tax <sup>(37)</sup>, introduced to raise the taxes levied on energy products and setting a target tax level for the year 2005. The gradual approach to the target value began in 1999 with a first increase in excise tax, but in the following years the further raises foreseen were not enacted owing to trends in the world fuel market.

The increased revenues from the higher tax (2,200 billion Lire for 1999) were allocated to easing the impact of social contributions on labour costs (1,300 billion Lire) and of higher fuel costs on trucking and on parts of the country not served by natural gas pipelines (mountainous areas, minor islands and Sardinia). The rest (about 300 billion Lire) was allocated to measures to curb atmospheric emissions through support to investment for environmental purposes.

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<sup>(37)</sup> Instituted by Law 448 of 23 December 1998 (legislation accompanying the Finance Law for 1999).



The Finance Law for 2001 froze the carbon tax for this year as well, in order to counter the rise in oil prices. To encourage the use of biofuels, the excise on bio-ethanol was reduced and that on biodiesel fuel eliminated. Moreover, to promote increased use of geothermal energy, a capital grant has been introduced to reduce the costs to subscribers of the connection to district heating network.

To achieve greater energy efficiency in final electricity use, regulations implementing the liberalisation decree were enacted for rational energy use, energy saving and proper demand management <sup>(38)</sup>. Market instruments (trading in “energy efficiency securities”) are relied on to achieve efficient final energy use. The decree places an obligation, defined in quantitative terms for each year from 2002 to 2006, upon electricity distributors to use “green certificates”.

The use of economic and financial instruments is essential also to sustainable mobility. Recent estimates <sup>(39)</sup> put the external costs of the **transport sector** at 231,560 billion Lire (base 2000), or about 10 per cent of GDP; of this, 93,989 billion Lire is attributed to air pollution. Transport policy, as outlined in the new General Transportation Plan, does not now contemplate price orientation measures as incentives or disincentives.

In **waste disposal**, EU regulation <sup>(40)</sup> has played a major role in a course of fiscal and ecological reform that could potentially orient the present waste management system towards sustainable development. Waste charges, providing for payment proportional to the amount of waste generated, can transform a tax into an incentive mechanism. If properly applied, it can contribute to environmental protection, to innovation and competitiveness in waste treatment organisations and a more transparent system of management control.

#### *Environmental impact of network industry liberalisation*

The **energy sector** is undergoing significant change as a result of transposition of EU directives for the opening of the electricity and natural gas markets. These sectoral policies must be prevented from

<sup>(38)</sup> Decree of the Ministry for Industry (in concert with the Ministry for Environment) of 24 April 2001.

<sup>(39)</sup> *Conto Nazionale Trasporti*; year 2000.

<sup>(40)</sup> Transposed into Italian law by Legislative Decree 22/1997.



having adverse environmental impact owing to increased use of energy sources; in particular, they must not be allowed to result in increases of harmful emissions. The response must consist both in a reduction in pollutants and environmentally damaging activities and in greater use of alternative energy sources.

A crucial provision in this field is the EU Commission's proposal for a directive to encourage Member States to generate electricity from renewable energy sources, in keeping with the national and European goal of reducing emissions of greenhouse gases.

Given that renewable sources will play a major role in future energy scenarios, in Italy the opening of markets is accompanied by the determination to foster increased use of these sources and to guarantee efficient final use. In line with EU guidelines Italy has instituted and developed a market in environmental certificates ("green certificates"), in the same legislative decree that liberalised the electricity market. Starting in 2002, all producers and importers of conventionally generated electricity are required to feed into the power grid, each year, electricity from renewable sources equal to at least 2 per cent of the amount exceeding 100 GWh. Producers from renewable sources can feed electricity into the network at the market price and sell to conventional generators certificates which the latter can use to make their 2 per cent quota.

Thus there will be a market in "green certificates," i.e. documents certifying the sale of power from renewable sources; the value of the certificates will depend strictly on the technological maturity of the source and its ability to generate power at low unit costs. In the Italian market, the 2 per cent quota corresponds to about 5 billion kWh. Considering that the quota can only be met from plants put into operation or repowered after the entry into effect of the liberalisation decree, this amount appears large enough to stimulate the market sufficiently.

Finally, with the Regions entitled to provide incentives for renewable sources through competitive bidding, investments have been oriented towards the best mix of renewable sources for each geographical area, and especially towards non-electric renewable sources. The objective is to bring the production of energy from renewable sources from its current level of 18 per cent to over 20 per cent, using market-based instruments.



## Foster a knowledge – based society

### *R&D, innovation and human capital*

Italian spending for research and development was less than 1 per cent of GDP in 1999, below the European average. Preliminary data for 2000 show an improvement, but not enough to significantly narrow the gap vis-à-vis the other countries of Europe. This low level of R&D spending, which remained essentially unchanged through the second half of the '90s, depends above all on structural factors. First, the Italian economy is specialised in low-technology industries. Second, a high percentage of manufacturing firms are SMEs. And finally, the educational system is in many respects inadequate to the needs consequent to the introduction of new technologies.

In addition to these general characteristics, Italy's science and technology sector suffers specific problems that put the country at a disadvantage with respect to European partners that spend more on R&D <sup>(41)</sup>. The job market for researchers is undersized, too vulnerable to the ageing of the present body of researchers, and unattractive to qualified young people.

Other problems are the weakness of basic research, the insufficient presence of "incubators" in public research facilities (above all the universities), poor ability to make the most of knowledge for economic and social purposes, inadequate financial and banking support for the formation of new, innovative businesses.

However, in this generally problematic situation, some positive factors can be observed in the last few years. The share of private spending in total R&D expenditure rose from about 50 per cent in 1997 to 60 per cent in 1999. That year, Italy awarded 52 patents per million inhabitants, up from 40.5 in 1996. Spending on information and communications technology (ICT) picked up notably in the second half of the '90s. The average growth rate of ICT investment was nearly 15 per cent from 1995 through 1999, more than twice the 6.5 per cent registered in the preceding five years. ICT accounted for 16.3 per cent of total investment in 1999, compared with 13.7 per cent in 1990. Total ICT spending amounted to 5.3 per cent of GDP in 2000, more than twice its share at the start of the decade (2.5 per cent in 1991).

<sup>(41)</sup> *Piano Nazionale per la Ricerca*, adopted by the Ministry for Universities and Scientific Research in November 2000.

In 2001 the Italian ICT market has registered a real progress with a turnover of over 63 millions of Euro (+8.7 per cent compared with last year figures).

The growth of Internet proceeded apace again this year. The number of accesses per hundred households rose from 24 in October 2000 to 34 in June 2001, slightly below the European average. There are now more than 800 Internet service providers, 50 of them operating nationwide.

In May of this year there were 13.5 million Italian Internet users, an increase of 15.5 per cent from a year earlier <sup>(42)</sup>. More than 7 million were regular users, 22 per cent more than the previous year. The number of on-line buyers was 81 per cent greater than in 1999, and about 1.5 million Italians now make on-line purchases. Home-banking customers numbered just under 900,000; there were about 6,000 business-to-consumer web sites in operation ( see *Table 51*).

Also the number of installed PC is estimated growing from 8.47 million in 2000 to 8.90 million in the 1<sup>st</sup> half of 2001. This trend, together with the increased penetration of Internet, allowed for the increased number of PC connected to Internet, now about 63 per cent of the total PC installed in Italy (compared with the 57 per cent of the end of 2000).

The dynamism of the Italian telecommunications market stands confirmed. Growth was led mainly by the mobile telephone sector, which remained one of the largest in Europe in terms of penetration (82 per cent in August 2001) and accounted for 17.2 per cent of the European market overall. In terms of users, the mobile phone market grew 39 per cent to a total of about 47 million.

Gains have also been made in the field of education. The share of the population aged 25-34 with high school education or better <sup>(43)</sup> was ten points higher in 2000 than it had been in 1993. Nationwide, public spending on education was 4.8 per cent of GDP in 1998, compared with 4.5 per cent in 1995.

These positive developments notwithstanding, further effort is needed if Italy is to achieve results comparable to those of the other industrial countries. Among the measures taken in recent years to support technological R&D, special mention must be made of the

<sup>(42)</sup> The country's population was about 58 million in 2000.

<sup>(43)</sup> Istat defines as "well educated" persons with the upper secondary degree or better.

reorganisation in 1999 of grants for industrial research provided by the Ministry for Universities and Scientific Research <sup>(44)</sup>. The key elements were measures to favour the creation of high-tech businesses through spin-offs from public research; action in support of training for research staff; subsidies for hiring of qualified researchers, for fellowships, and for the commissioning of specific research projects; and subsidies to universities and public research institutions that second researchers or university professors to private companies.

To strengthen basic research, the Finance Law for 2001 created, under the Ministry for Universities, a Fund for Basic Research (*Fondo di Investimento nella Ricerca di Base, FIRB*) to finance the strengthening of public and joint public-private research facilities, to carry out basic research projects high in scientific and technological content, to create and enhance highly qualified public and private centres.

The two measures just described became operational in 2001 with the issue of the ministerial implementation decrees <sup>(45)</sup>.

Under the new system of grants, terms were approved in October 2001 for applications for funding of pre-competitive R&D projects and related training activities for researchers and/or technicians by industrial enterprises and public and private research institutions in the South (Basilicata, Calabria, Campania, Puglia, Sardinia, and Sicily). A total of 310 million Euro was appropriated to finance industrial research (258 million Euro) and training of researchers (52 million Euro) in strategic sectors of the food processing industry, environment, cultural heritage and transport.

As to the FIRB, in August 2001 eight competitions were announced to spur research in selected strategic areas, ranging from human health to the quality of life, from technology to the safeguarding of rights, with a total appropriation of 255 million Euro.

Also in August, the financing (46 million Euro over three years) was approved for applications to create centres of research excellence at

<sup>(44)</sup> Legislative Decree 297 of 27 July 1999, "Reordering of the rules and streamlining of procedures for aid to scientific and technological research, for the dissemination of technology, and for the mobility of researchers."

<sup>(45)</sup> Ministerial decree 593 of 8 August 2000, "Procedures for granting the subsidies provided by Legislative Decree 297 of 27 July 1999" and Ministerial decree of 8 March 2001, "Criteria and procedures for assignment of financial resources of the Fund for Basic Research Investment".

universities and graduate schools. The centres of excellence, which the intervention of the Ministry for Universities is designed to encourage and sustain, must meet specific requirements: interdisciplinary programmes, integration of research with high-level training, practical benefits for industry, public services, or the educational improvement of society.

The Finance Law for 2002 provides for a tax credit for firms investing in R&D. The tax credit applies to the increase in a firm's R&D spending and is for a maximum of 85 per cent of the total increase (100 per cent for SMEs).

Major innovations have also occurred in the field of education. Substantial changes have affected the universities in recent years. First, Italian university degree courses are being patterned to European standards. Three levels have been created: the undergraduate degree course (three years), a Master's degree (two more years), and the Doctorate (three more years). Further, universities have been given progressively greater organisational, administrative and academic autonomy, and a system for their evaluation has been introduced. Third, the hiring of professors and researchers has been radically reformed. The selection process is now controlled by each university rather than at the Ministry level.

As for the school system, in November 2001 the working group charged by the Minister for Education in July to develop a proposal for the reform of the school system presented its final report. The proposed reform makes schooling and/or vocational training compulsory up to age 18. The main innovation concerns the length of upper secondary studies, which will be shortened from the present five to four years, in order to allow for earlier entry to the labour market and bring Italy into line with the other industrial countries. Students may choose between academic high school (*liceo*), vocational or professional institute, or actual vocational training (with alternation between periods of work and of study). In all three cases access to university or higher training is possible. Changes also affect teaching staff; all teachers from nursery school to high school will be required to have the three-year university degree plus a two-year specialisation.

#### *Recent economic policy measures concerning R&D and innovation*

The recent law enacting "Initial economic policy measures" <sup>(46)</sup> contains two important provisions on innovation.

<sup>(46)</sup> Law 383/2001.



First, it allows for the possibility of substituting an insurance policy for the subscription of equity capital in public limited companies and private limited companies. The purpose is to facilitate the creation of new innovative businesses by introducing an alternative to equity capital.

Second, new rules have been fixed concerning intellectual property of industrial inventions, which derogate from the ordinary law <sup>(47)</sup>. Under the new law a researcher employed by a University or Public Administration whose institutional purposes include research enjoys exclusive rights to his own patentable inventions. The researchers stand for entitled not only to the paternity of his invention or discovery but also to the economic rights, which previously would have gone to his employer. To safeguard the public interest, if the inventor has not begun economic exploitation within five years of the patent, the exclusive property rights over the invention are transferred to the Public Administration.

Significant changes have been made in Italy's institutional arrangements. For more efficient, rational management of technological research and development policy and in order to strengthen the linkage between the formation of qualified human capital and R&D, starting with the current legislature the general reform of the government <sup>(48)</sup> has created the Ministry for Education, Universities and Research, combining the old Ministry for Universities and Scientific Research and Ministry for Public Education.

At the same time, a Minister for Technological Innovation has been appointed, with powers to set guidelines for the development of the Information Society and to co-ordinate actions and projects involving technological innovation, to be promoted in concert with the relevant ministries.

In October 2001 a Constitutional law was approved assigning legislative power in the matter of scientific and technological research and in support for industrial innovation to the regions; the central government retains only the power to set fundamental principles.

As objectives for future years, in the Economic and Financial Planning Document for 2002-2006 the Government undertakes to bring the ratio between R&D spending and GDP up to the European average

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<sup>(47)</sup> Royal Decree 1127 of 29 June 1939.

<sup>(48)</sup> Instituted by Legislative Decree 300/1999.



(2 per cent) and to appropriate resources to individual research projects based on transparency and the validity of the projects. In addition, the Government intends to pay special attention to capitalising on the results of basic research, both by supporting the action of national research institutions to create closer ties with firms and by enhancing university programmes and completing the process of reform for greater autonomy.

As for the funding of universities and research, according to the "State budget for 2002 and three year budget for 2002-2004" and the Finance Law for 2002, the resources allocated for 2002 should be essentially in line with those for 2001 <sup>(49)</sup>.

Thus research appropriations in the State budget for 2002 are basically in line with those of 2001. Better economic conditions and improved public finances should make it possible at the end of 2002 to start the increase in research funding that remains a fundamental point in the Government's programme for the legislature.

### *Information Society*

The advent of Information and Communication Technologies inevitably entails organisational measures involving the structure of government and necessitates a re-engineering of the processes whereby government meets the needs of citizens and businesses. In this context, a number of projects for the computerisation of the public administration and for bringing it on-line are under way. The general "vision" of e-government in Italy and the broad guidelines for action are set out in the country's "*e-Government Action Plan*," drafted by the Department for Public Administration (in harmony with the EU's plan for e-Europe) in June 2000.

Under the Action Plan, the Authority for Computerisation of Public Administration (AIPA) suggested the creation of a Single Public Administration Network to interlink all information systems of local and central government bodies. A call for competitive tenders, with pre-

<sup>(49)</sup> The Ordinary University Finance Fund is increased, on an accruals basis, by 1.4 per cent (from 6,162 million Euro in 2001). The Ordinary Fund for research institutions is essentially the same as in 2001 (1,268 million Euro). The Fund for research grants, which is the largest budget item funding corporate research, is reduced from 622 million Euro in the 2001 budget to 420 million Euro in 2002. However, this amount does not include the funds to be assigned by an upcoming decision of the Interministerial Committee for Economic Planning allocating funds for depressed areas, so for this Fund too no decrease in funding for 2002 is forecast. Finally, the FIRB has been financed by decree of the Prime Minister, with 730 billion Lire from the sale of UMTS licences; the decree provides that this financing is considered to be valid for 2001 and 2002.



qualification, has been made for the supply of the services, and two suppliers selected. A special Technical Centre is responsible for co-ordination, analysis and monitoring of the services provided by the service managers to network users.

At present 41 general government departments or units (out of 56 required to do so by Law 59/1997) have signed contracts for transmission services; 40 have signed interoperability agreements.

The Finance Law for 2002 has also allocated 5 million Euro for the period 2002-2004, to grant free Internet access to Parliamentary acts and to Parliament's historical archives.

#### *Availability of researchers and skilled personnel in ICT*

In 2001 the information technology sector took up 21 per cent of Italian university graduates, an increase of 5 per cent by comparison with 2000. The IT sector's work forces composed as follows: 30 per cent university graduates, 64 per cent secondary school graduates, and only 6 per cent less than upper secondary education. The difference with respect to industry and services is striking, where only 7 per cent of workers have university degrees, 32 per cent high school diplomas, and 61 per cent vocational or lower secondary certificates.

## II B. CAPITAL MARKETS AND FINANCIAL SERVICES

### Legal framework

Following the far-reaching reform of legislation on financial services, intermediaries and markets introduced with the 1998 Consolidated Law on Financial Intermediation <sup>(50)</sup> and its implementing regulations in 1999 and 2000, action in this field has concentrated on the further integration of the Italian with the European and the broader global markets. The latest changes in the rules governing financial services and markets are strictly related to commitments involved in the realisation of the European single market in financial services.

- (1) **Payments system.** In adapting Italian law to EU legislation, the transposition decree on the payment system (settlement finality) has brought Italian legislation into line with the settlement finality directive by making credit transfer orders entered into payment or securities settlement systems irrevocable and final.
- (2) **Proposals on market manipulation.** Italy is co-operating in the fight against economic crime and in particular against the laundering of the proceeds of crime. As such Italy is a member of international organisations, including the Financial Action Task Force (FATF), engaged in setting standards of excellency in the battle against money laundering. The recent tragic events have underlined the need for financial action to combat terrorism and stressed the importance of the FATF role as the international organisation capable of designing and adopting measures to prevent the financing of terrorist organisations.
- (3) **Second pillar of the pension system.** In addition to taking part in EU negotiations looking to a directive on the harmonisation of private pension plans among Member States, Italy has also taken domestic measures to foster the growth of private pension funds, i.e. “second

<sup>(50)</sup> Legislative Decree 58 of 24 February 1998.



pillar” of the pension system. Tax incentives for those who join supplementary pension plans by adhering to private pension funds have been increased (deductibility of up to 12 per cent of income, with an annual ceiling of 5,165 Euro), and the tax benefits have been extended to individual retirement plans as well <sup>(51)</sup>.

- (4) **Company law reform.** Italy is engaged in a broad review of the whole subject of company law, in the awareness that in an era of markets globalisation and far-ranging mobility of capital, the legal framework itself is a factor of national competitiveness.

The reform of company law was initiated with the Consolidated Law on Financial Intermediation, which reformed the rules governing companies whose shares are traded on regulated markets with a view of completing the regulation of financial markets and intermediaries. The enactment of the Consolidated Law stressed the need to revise the Civil Code articles concerning limited companies.

A legal disparity between listed companies subject to strict requirements of transparency, prospectus and safeguards for minority shareholders and non-listed limited liability companies which nevertheless draw on public saving, has resulted. This may result in an incentive for companies not to be listed. Furthermore, despite the major role of small and medium-sized enterprises in the Italian economy, the Civil Code does not provide a suitable legal framework for their needs.

The Government enabling act relative to the company law reform approved by Parliament <sup>(52)</sup>, redrafts the law on limited companies, preparing legal forms consonant with the different enterprising activities. The main purpose is to create a legal framework that facilitates new business creation by simplifying the formalities involved in incorporating companies and enhancing their growth and competitiveness by greatly extending their autonomy in drafting the corporate by-laws, especially for companies that do not turn to the general public for debt or equity capital.

<sup>(51)</sup> These were the purposes of Legislative Decree 47/2000.

<sup>(52)</sup> Law 366 of 3 October 2001, “Delegation of power to the Government for the reform of company law”.

## Financial market developments

### *The secondary market in government securities (MTS)*

The screen-based market in Italian government securities (MTS) has responded to the evolution of the European financial industry in three different ways: *i)* consolidating the market in the euro-area countries (arrangements now being completed with Spain, Germany and Greece) and entry into non-EU countries (Japan), while contacts have been initiated with Eastern Europe, the US, South America and Southeast Asia; *ii)* extension of the list of products traded, with the creation of a liquid, efficient market in non-government securities both on EuroMTS (which handles large volumes of the German regional *Pfandbriefe*, US Freddie Macs, and EIB papers) and on MTS Italia, where EIB papers and asset-backed securities issued by INPS and INAIL are traded; *iii)* offer of value-added services to broaden the range of services available to market participants in the network: broker-to-broker web markets, i.e. interconnection services between intermediaries and broker-to-customer, i.e. activities between brokers and customers. The great expansion of MTS in the past year has spawned a need to restore order to the fragmented corporate structure that has arisen by clearly separating “institutional” activities (markets) from customer-oriented ones (services).

### *The Italian Stock Exchange (Borsa Italiana S.p.A.)*

The Italian Stock Exchange made significant changes in 2000 in its equity market regulations, creating some new trading environments and modifying existing ones.

- (1) **Creation of new markets and products.** To serve investors' demand and to handle the new financial services that were supplying, the Italian Stock Exchange created new markets and products designed with market participants' needs in mind, such as after-hours trading and miniFIB. The screen-based equity market (*Mercato Azionario Telematico*, MTA) was also reorganised to make the list more representative of the country's economic structure, creating market spheres suited to the special needs of particular business segments (most significantly, the STAR segment for high-requisite equities designed especially for SMEs).



- (2) **New listings and the rise in capitalisation.** In 2000 the Italian stock exchange recorded an all-time high of 49 new listings, <sup>(53)</sup> bringing the total to 297. Total turnover came to 869 billion Euro, stock market capitalisation rose to 70.5 per cent of GDP, and daily turnover rose from an average of 2,009 million Euro to 3,422 million Euro (*see Table 62*). The increase was due in part (24 per cent) to the rise in share prices, as well as to capital increases by listed companies (5 per cent) and new listings (17 per cent).
- (3) **The growth in equity investment by institutional investors.** Between 1999 and the end of 2000 the total value of equity holdings by Italian institutional investors (pension funds, investment funds, asset management accounts, insurance companies) rose by 5.9 per cent, while the ratio of equity investment to GDP remained unchanged (*see Table 59*). The portion of Italian institutional investors' portfolios consisting of foreign equities continues to increase, albeit at a slower rate (*see Table 64*).

#### *Restructuring of the banking sector*

The number of banks established in Italy decreased again in 2000; the process of concentration was perceptible also in the reduction of the number of banking groups from 79 to 74 <sup>(54)</sup>. Another index of concentration is the market share of the top five groups. As measured by total assets, this rose from 50 per cent in 1999 to 54 per cent at the end of 2000 (*see Table 60*); the share of the top ten groups rose from 63 to 67 per cent.

#### *Venture capital*

The number of active investors in Italy has nearly tripled, from around 30 in the first half of the '90s to 82 in 2000. The number of venture capital operations more than doubled in the past two years and the total volume of such investment tripled.

According to AIFI (the Italian Association of Institutional Venture Capital Investors), for all of 2000 the institutional investors represented

<sup>(53)</sup> 16 on the main exchange and 34 on the Nuovo Mercato (including one transfer from the former to the latter).

<sup>(54)</sup> Banca d'Italia, *Annual Report* for the year 2000.



by the association invested more than 2,944 million Euro in Italy. The amount was divided among 490 enterprises in a total of 646 operations. The value of such investment was 67 per cent greater than in 1999.

By type of investment, seed or start-ups accounted for more than half of the total number of operations and were thus by far the most important component, followed by expansion investments (36 per cent), buy-outs (8 per cent), and replacements (3 per cent). By volume, buy-outs continued to take the lion's share (1,363 million Euro, or 46 per cent of the total), followed by expansions (33 per cent), start-ups (18 per cent, worth 540 million Euro) and replacements (3 per cent; *see Table 65*).

The recently issued implementing regulations to the Consolidated Law on Financial Intermediation should eliminate the legal and fiscal obstacles that market participants cited as impediments to the growth of private equity and venture capital business. The short time that has elapsed since the issue of the regulations makes it impossible to fully assess its impact. For closed-end funds in particular, the new regulations remove the ban on taking controlling interests and allow for the creation of collective undertakings reserved to "qualified investors".

## II.C. OTHER REFORMS AFFECTING PRODUCT AND CAPITAL MARKETS

### *Recent progress in Regulatory Impact Analysis*

With the introduction of Regulatory Impact Analysis (RIA) <sup>(55)</sup>, a first “experimental” phase has been concluded, designed to refine methodologies and equip government departments to respond to this new need. Accordingly a “guide” to RIA experimentation was drafted, conceived as a support for those engaged in the analysis. The guide sets forth the logical passages forming RIA, offers conceptual frameworks and methodological suggestions.

To give operative suggestions on the individual provisions forming part of the experimentation programme, in March 2001 a help desk was instituted for a limited number of cases.

A training programme was begun for the officials assigned to apply RIA in the individual central government departments, and an external communications programme was activated. The latter consists of a special page on the web site of the Prime Minister's Office <sup>(56)</sup> to provide information on RIA with special emphasis on the experimentation now under way, plus conference presentations and attendance at important meetings.

The experimentation involved several “pilot cases” identified by the help desk, with the approval of the departments concerned, relating to procedures included in the annual bureaucratic simplification laws (recreational boating, car rentals and garages, and exceptional shipments) and to the transposition of EU directives (waste dumps) considered to be of special interest to firms. For the entire duration of the experiments, the help desk provided the departments engaged with the necessary technical and operative support.

One of the key results of this initial experimentation is the need to rethink and relaunch forms of action. To redefine the test and make it

<sup>(55)</sup> Law 50/1999, Article 5, and the Directive of the Prime Minister, 27 March 2000, which laid down procedures and timetable.

<sup>(56)</sup> ([www.Governo.it/sez\\_presidenza/dagl/air.html](http://www.Governo.it/sez_presidenza/dagl/air.html))

more effective with a view to the gradual application of RIA to all of the Government's regulatory activity, substantially extending the range of cases subject to testing and expanding RIA training for public managers, a new Prime Minister directive was adopted on 21 September 2001. The directive provides for the setting up of a Steering Committee whose task is the strategic guide of the new experimental phase as well as the greater involvement of administrations concerned.

#### *Developments in public-private partnerships*

The Government assigned to its Technical Project Financing Unit (formed in the spring of 2000) the task to promote government departments' use of financing techniques involving private capital for infrastructure projects. Support activity has covered some 67 projects: 47 per cent in social and public construction, 22 per cent in transport and road structures, 19 per cent in sports and hotel facilities, 6 per cent in water resources, 3 per cent in cultural heritage, and 3 per cent in environment. The total amount funded comes to more than 8,700 million Euro. By location, 39 per cent of the projects are in the North, 27 per cent in the Centre and 34 per cent in the South.

The Technical Project Financing Unit has also assisted government departments and public agencies in the reorganisation and restructuring of local public services, in particular water resource management, to determine paths and procedures for the privatisation of this industrial sector. Between July and September 2001 more than 50 per cent of the requests for assistance submitted to the Unit came from the *Mezzogiorno* area.

Law 443/2001 on infrastructures (accompanying legislation to the Finance Law for 2002) calls on the Government to identify, by June 30<sup>th</sup> every year, infrastructures and strategic industrial plants of major national interest to be constructed, and to indicate the amount of funds required. The philosophy of the provision entails project financing where possible, the simplification of procedures for approval of preliminary projects, attribution to the Interministerial Committee for Economic Planning of the power to make definitive project approval and monitor implementation through the Ministry for Infrastructure and Transport and possibly through advisers. Realisation of the works will be assigned to a single general contractor through public tender.



### III. SUPPLEMENTS

- A. - Follow up to the country specific recommendation included in the BEPGs for 2001**
- B. - Policies to protect and improve the environment**
- C. - The sustainability of pension system**



### III. A. FOLLOW UP TO THE COUNTRY SPECIFIC RECOMMENDATION INCLUDED IN THE BEPGs FOR 2001

The Broad Economic Policy Guidelines for 2001 recommended Italy to adopt corrective measures to enhance the integration of product and capital markets and encourage the development and spread of the information society.

#### **Product markets and the information society**

##### *Research and development*

A number of measures have been introduced reorganising incentives for industrial research, with a view to encouraging private-sector involvement in R&D spending. The decree implementing Legislative Decree 297/1999 envisaged a series of actions to support training activities and to foster the creation of high-tech enterprises. These measures became operational in February 2001.

The provisions of the Finance Law for 2001 establishing a fund for basic research (FIRB) within the framework of the National Research Programme were also implemented in February.

The recent law 383/01 immediately enacted by the Government to support the economic recovery (*"Primi interventi per il rilancio dell'economia"*) set new rules concerning intellectual property, i.e. rights to industrial inventions. Under the new law a researcher employed by a University or Public Administration whose institutional purposes include research, enjoys exclusive rights to his own patentable inventions. The researchers stand for entitled to the paternity of his invention or discovery, but also to the economic benefits, which previously would have gone to his employer.

However, if the researcher has not begun economic exploitation within five years of the patent, the exclusive property rights over the invention are transferred to the public administration.

In the context of the general reform of the government <sup>(57)</sup>, the Ministry for Education, Universities and Research (MIUR), has been created, combining the old Ministry for Universities and Scientific Research and Ministry for Public Education.

<sup>(57)</sup> Instituted by Legislative Decree 300/1999.

*Information society*

The Finance Law for 2001 provided funding for projects to develop the information society, in particular the computerisation of the public administration, the technological development of enterprises, computer literacy, familiarity with the new technologies and research in the telecommunications sector.

The Finance Law also authorised the Ministry for Productive Activities to grant a tax credit for e-commerce, consistent with the ceiling established by EU legislation for minimal aid, that may be used over a period of up to three years.

The law 383/01 allows for the possibility of substituting an insurance policy for the subscription of equity capital in public limited companies and private limited companies. The purpose is to facilitate the creation of new innovative businesses by introducing an alternative to equity capital.

Starting with the current legislature, a Minister for Technological Innovation has been appointed, with powers to set guidelines for the development of the Information Society and to co-ordinate actions and projects involving technological innovation, to be promoted together with the relevant Ministries.

*Energy sector*

The cost of producing electricity in Italy is strongly affected by the country's dependence on crude oil, which in some periods has prevented the effects of liberalisation from being fully reflected in users prices .

Although the price of crude oil remained high in the first months of 2001, the price adjustment mechanism has made it possible to limit the pass-through to final prices during the year.

The adjustment mechanism based on a weighted average of the prices of the last four months of a basket of fuels (six months for gas) curbed the increase in the prices of the raw materials and diluted their effects on final prices. Of course, this also means that any price reductions may feed through with a lag; on balance however, the system allows for greater price stability for users.

An important step in the direction of ensuring greater competition and lower prices, through the entry of new generating companies, was taken on October with the approval of a Presidential Decree simplifying



and accelerating procedures for the construction, modification, or repowering of large-scale generating plants (those with capacity greater than 300 thermal MW), in complete observance of environmental protection rules.

#### *Local public services*

Pending enactment of a comprehensive reform law, the sector has been changing rapidly as the institutional and administrative framework evolves, and it is now in the midst of far-reaching organisational and operational innovation. Gains in operating autonomy have been accompanied by an increasing conversion of service providers into companies and a marked expansion in both their size and their output.

The regulatory arrangements for local public services have been redefined in the Finance Law for 2002 (art.35), which establishes that the local authorities will retain the ownership of the network and infrastructure necessary for the operation of the public services. The network management can be conferred by the local authority to joint stock companies, in which it retains the majorities of stakes, or to firms selected through public procedures.

Service provision is to take place under a competitive regime through procedures of public tendering. Firms that already manage local public services, in Italy or abroad, under a direct entrustment are not allowed to participate to the bids.

#### *Simplification of administrative formalities for firms*

Legislation has progressively streamlined the administrative apparatus and eased the administrative burden on firms. The widespread use of self-certification, declaration of commencement of activity and "silent is consent" rule are significant in this respect. Certainty as to the timeframe for the completion of procedures has facilitated the start-up of businesses.

One of the most effective measures for the corporate sector has been the creation of one-stop shops for productive activities, which have become increasingly widespread during the past year. This institution guaranteeing businesses a definite and rapid timetable for completion of administrative procedures has now been flanked by the one-stop shop for internationalisation of firms, which supplies businesses with



information on measures to support exports and direct investment abroad.

The bill for administrative simplification for 2001 - now under discussion before Parliament - calls for the creation of an on-line register, containing a list of the formalities required of firms. Anyone thinking about starting a business has only to access the register in order to learn precisely what formalities are necessary and to complete the forms electronically.

Law 383/2001 has helped to lighten the administrative burden on firms and to facilitate compliance, doing away with a series of tax and accounting formalities that continued to burden the productive sector. In particular, keeping procedures for accounts book have been simplified and the related tax payments eliminated.

### *Professional services*

Effective measures to reorganise the professional activities remain necessary. The Government has declared its commitment to modernise the sector, also following the European recommendations.

In the Economic and Financial Planning Document for 2002-2006 the Government indicated the principal objectives of the reform: a) maximising the quality of professional services provided, b) maximising the guarantees to users, and c) making the professions as a whole more efficient and competitive.

In the regulatory process it will also be necessary to recognise new professions, facilitate the free movement of professionals in the European Union, and re-examine the existing price-setting procedures and conditions for access to the professions.

### **Capital markets**

In line with the recommendations of the Broad Economic Policy Guidelines, Italy continued to encourage equity and venture capital investment. The country has removed what may be considered restraints on the freedom of equity investment on the part of institutional investors. It is not mandatory for investors to take up certain types of financial instrument, such as government securities, nor are there limits to their right to take even a controlling interest in companies; for example, the rule limiting investment funds' holdings in firms to minority stakes has been eliminated. The only remaining restrictions



regard the distribution of institutional investors' portfolio risk, and these are similar to the rules in force in many countries: investment in any one asset is limited as a percentage of the total portfolio; for example, investment funds may not invest more than 20 per cent of their resources in a single asset.

During the past legislature, bill for the reform of bankruptcy procedures was not approved.



### III. B. POLICIES TO PROTECT AND IMPROVE THE ENVIRONMENT

The main policies aimed at protecting and improving the environment from the perspective of sustainable growth are described below. The section covers the traditional themes of environmental economics, listing the policy objectives, instruments and their environmental impact. The discussion focuses on recent developments, with background information on regulatory and institutional framework.

#### The institutional framework

Italy's institutional framework for environmental protection research, management and administration began to be put into place some years ago with the creation of the Ministry for the Environment, followed by that of the National Environmental Protection Agency <sup>(58)</sup>. The latter monitors the environment and, with the National Institute of Statistics, already produces all the official indicators for gaseous emissions. The national agency and the regional agencies that have been set up in the meantime constitute the national system of environmental protection.

The next major step in improving the institutional framework will be the creation of the national system of environmental and sustainable growth accounts. This system is to be fully implemented and tested within the next two years. Its aim is to provide a complete set of consistent and reliable indicators both for use alongside the traditional national accounts and as an instrument for studying the problems of the environment and sustainable growth and selecting appropriate policies to achieve it.

#### Water-supply quality and shortages

##### *Environmental policy objectives*

*Main objectives:* to supply drinking water to households, firms and farms while minimising the environmental impact on surface and subsurface waters.

*Cost-benefit analysis:* the law <sup>(59)</sup> underscores the importance of cost-benefit analysis, though only in general terms.

<sup>(58)</sup> ANPA (Agenzia Nazionale per la Protezione dell'Ambiente), whose regional analogs are known as ARPAs.

<sup>(59)</sup> The so-called Galli Law of 1994, whose institutional design was completed by Legislative Decree 152/1999.

*Specification of the objectives:* the law spells out the objectives in considerable detail in conceptual form but not in terms of quantified variables. In particular, the following are specified:

- devolving powers to local authorities;
- increasing public awareness of the value of water resources and the attention paid to the sector and its problems;
- eliminating wasteful use of drinking water;
- promoting a more efficient water management system;
- ending state aid to the water sector.

*Quantification of the objectives:* the Water Conservation Plan indicates the objectives of acceptable quality for surface and subsurface waters.

*Policy evaluation procedure:* the law does not explicitly specify a procedure for evaluating policies or achieving the objectives. Policy implementation is entrusted to the local authorities.

### ***Policy instruments***

*Main policy instruments:* putting aside the commands and controls measures contained in national and regional legislation, the main market-based instrument introduced in the water resources sector is a tariff system for the supply of water services. Few voluntary agreements have also been reached for the construction of water treatment and recycling plants.

*Choice and design of policy instruments:* according to the law the tariff is corresponded for the integrated water service. The tariff's formula is a price cap determined at the central level. The parameters included in the formula are set out annually, with the aim to promoting integrated water-supply service and encouraging investments. Local authorities control the investment policies.

*The role of cost-benefit analysis in decision-making:* the variables considered in price-setting include target rate of inflation, and productivity. The quality of water services is linked to the allowed investment. Thus, a rather indirect form of cost-benefit analysis is automatically implemented.

The majority of local authorities are investing in the water-supply sector and are thus following a national economic policy guideline, even though cost-benefit analysis does not always figure decisively in their decisions.



*Environmental and fiscal impact of instruments:* the case of *Acquedotto Pugliese* is emblematic in its complexity and for the problems involved. *Acquedotto Pugliese* extends over four regions of southern Italy and is the largest aqueduct in Europe. A central government entity, it was put under special administration in 1997 after having accumulated a series of losses in the preceding years. The special administrator's report to Parliament revealed that one of the primary reasons for the aqueduct's financial distress was the huge number of unpaid claims on customers for services rendered. Hence, it would appear that up to 1998 at least a part of Italy regarded water not as a service industry but as a free and inexhaustible resource supplied by the State at no cost. The Government's intervention has improved the situation in several respects: *Acquedotto Pugliese* is now a public limited company, it has basically broken even in the last two years, and the population and institutions have a greater awareness of the value of water resources for society as a whole.

*Conflict with other policies using market-based instruments:* at local level there are examples of aid to agriculture in the form of lower water prices. In these cases it can be said that there is a spillover effect, since lower prices can encourage wasteful use of water. At the same time at national level the Ministry of Environment and Conservation promotes the use of recycled water in agriculture in exchange for lower prices.

The slowness observed in introducing sewerage treatment plants that would permit a substantial percentage of water to be recycled for use is an example of how local fiscal policy can sometimes conflict with long-term cost-benefit analysis.

## **Climate change, air quality and energy efficiency**

### *Objectives*

*Main objectives:* in 1992 Italy was one of the 154 countries to sign the Convention on Climate Change. The Convention's sole implementing instrument is the 1997 Kyoto Protocol, whereby a group of countries including Italy set themselves the goal of reducing the emissions of six greenhouse gases.

*Quantification of the objectives:* the Protocol envisages an overall decrease in emissions of 5.2 per cent by 2012 compared with the levels of 1990. Italy's emissions per capita are lower than the European average. The national goal is to achieve a decrease of 6.5 per cent, which means bringing emissions down by 17 per cent from their current level. It can be said that a quantified national objective has been set.

*Specific or detailed objectives:* the National Strategy for Sustainable Growth specifies the following list of objectives and goals to be reached by 2012:

- increase the efficiency of thermoelectric power plants (reduction of 35MtE CO<sub>2</sub> <sup>(60)</sup>);
- decrease gaseous emissions from the transport sector (30 MtE CO<sub>2</sub>);
- increase energy produced from renewable sources (30 MtE CO<sub>2</sub>);
- decrease gaseous emissions as a result of reduction in thermal energy dispersion from residential and industrial buildings (40 MtE CO<sub>2</sub>);
- decrease gaseous emissions from other sectors (25 MtE CO<sub>2</sub>);
- absorption of CO<sub>2</sub> by forests (0.7 MtE CO<sub>2</sub>).

*The role of cost-benefit analysis:* many studies have been performed since 1997 to analyse the costs and benefits of applying the environmental policies of the Kyoto Protocol. From the micro-economic point of view, the findings of the majority of these are not definitive, due to the global nature of the phenomena examined. The principal difficulty consists in estimating the costs to society of not adopting the Protocol. Estimating the costs of implementing controls also involves serious problems in connection with the choice of the control mechanisms to be used and their effectiveness. From the macro-economic point of view, the cost estimates seem more reliable even if not of satisfactory accuracy. In any case, the studies tend to support the view that in the long run it pays to adopt the Protocol, assuming there are no major technological breakthroughs in the meantime.

*Policy evaluation procedure:* the Ministry for the Environment and Conservation is responsible for designing and evaluating environmental policies. The system of national environmental accounts, due to be completed within two years and already prepared as far as air-quality

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<sup>(60)</sup> 35 million tons of carbon dioxide equivalent.



indicators are concerned, will provide data for all future evaluations. The Ministry of the Economy and Finance assesses the economic effectiveness of the policies twice a year, with the Economic and Financial Planning Document and the Finance Law. So far, conflicts with other policies using market-based instruments have been evaluated only if there is reason to suspect the existence of distortions.

### ***Policy instruments***

#### *Choice and design of policies and policy instruments*

Recent sectoral and general policies adopted to protect and improve the environment in terms of better air quality and energy efficiency are the following:

- A fund for the reduction of atmospheric emissions and the promotion of solar energy is to be set up, financed in part with carbon tax revenues.
- *Decrease in gaseous emissions from the transport sector:* the Government is committed to pursue its policy of improving rail, maritime and port infrastructure. The basic idea is to promote a shift of passenger and goods traffic from road to rail and water. This would certainly benefit the environment, given the low level of emissions per passenger and per tonne in maritime and rail transport. The carbon tax is primarily a tool for financial sustainability and not a market-based instrument for sustainable growth, as is demonstrated by the inelasticity of consumption to an increase in the final price of gasoline.
- *Energy sector:* incentives have been introduced for the use of thermal energy, particularly geothermal energy, which is easier to produce and costs less. Thermal energy's value has recently been enhanced by technological progress that allow a more efficient transport of heat over considerable distances. This is the key to creating district heating networks, although their diffusion may remain limited. The main obstacle to the spread of district heating is the large initial outlay consumers have to make in order to be connected to the network. The Finance Law for 2002 provides for a tax credit of about 20 Euro per kWh of power connected to the district heating network.





- *Increase in energy produced from renewable sources*: the Government has set a floor of 2 per cent for the share of electricity to be generated from renewable sources, equal to approximately 5 billion kWh a year. This directive is accompanied by a market-based instrument, the system of green certificates. Green certificates will be issued in proportion to the electricity generated from renewable sources and will be sold on the market to conventional producers, who are required to hold certificates equal to at least 2 per cent of the electricity they generate.
- *Increase in the use of fuels from renewable sources in the transport sector*: there are many local projects for the use of biofuels to reduce emissions in urban areas, and the Ministry for Productive Activities is implementing an initial pilot project for the distribution of biodiesel fuel in cities. The exemption of biodiesel fuel from excise duty and a reduction in the excise duty on some products (bioethanol, ETBE, additives produced from biomass) used as fuels are planned for next year.
- *Decrease in gaseous emissions from other sectors*: some local authorities are implementing systems for generating energy from waste (biogas).
- *Absorption of CO<sub>2</sub> due to forests*: reforestation is a perfect example of a policy for sustainable growth. It raises the rate of carbon dioxide absorption, improves the landscape, and by so doing benefits the tourist industry.
- *Electromagnetic pollution*: drawing on part of the receipts from the sale of UMTS licences, a fund is to be set up that will support research on the risks of electromagnetic exposure, the creation of a national register of the sources of electromagnetic pollution, the training of inspectors and the promotion of new low-impact technologies.

#### *Environmental and fiscal impact of the adopted instruments*

In January 2001, the excise tax on leaded petrol was 6 per cent higher than that on unleaded petrol, but in the run-up to the final withdrawal of leaded petrol from the market on 1 October the differences fell to nil. Temporarily, leaded fuel has been replaced by an enhanced petrol with additives that smoothes the transition to the use of unleaded fuel by cars not designed for it. The excise tax on diesel fuel is still around one third of that levied on petrol, an environmentally distorsive situation, given the proven higher polluting power of diesel.

**National average price of oil products in Euro per litre  
on 22 October 2001 (\*)**

Product	Consumer price	Excise	VAT	Total Tax	Net price
Enhanced petrol	1,0112	0,5203	0,1685	0,6889	0,3224
Unleaded petrol	1,0097	0,5203	0,1683	0,6886	0,3211
Auto gas-oil	0,8496	0,3817	0,1416	0,5233	0,3263
Auto LPG	0,5097	0,1448	0,0850	0,2297	0,2800

(\*) The national average price is calculated according to the procedure specified in 1999/280/EC.

Biodiesel fuel is not subject to excise tax. A reduced excise is levied on bioethanol, ETBE and additives produced from biomass.

A share of the receipts from the carbon tax has been allocated to environmental policy programmes, subject to budgetary restrictions and adjustments to excise taxes due to increases in international oil prices <sup>(61)</sup>.

*Role played by considerations of the polluting industries' international competitiveness:* the transport sector would be negatively affected by a unilateral increase in the excise on diesel oil and other fuels apart from petrol. Furthermore, the consequences of a sharp increase in taxes on fuels would be most marked for Italy's multitude of small transport firms. Unilateral departure from a policy that is common to all the countries of the European Union seems unlikely. Similar considerations hold for the air transport industry, where the unilateral introduction of an excise tax on aviation fuels would be politically unsustainable in the face of the crisis afflicting the sector.

#### *Solid waste and its recovery*

The market is currently divided among more than 4,000 operators working under three different arrangements: direct management, most common in small towns and in the South, with the municipal government directly taking care of garbage collection and disposal (3,600 operators in as many municipalities); private companies, generally employed by medium-sized municipalities especially in the Centre and North (250 operators for 2,600 municipalities); and public operators (municipal companies, consortia, public limited companies

<sup>(61)</sup> Up to now there has been only one transfer of 300 billion Lire to the benefit of the department of the Ministry for the Environment and Conservation that oversees emissions reduction.



and public-private partnerships), most of them serving populous areas in the North and Centre.

### ***Policy objectives***

*Primary objectives:* to reduce the negative impact of solid waste on the environment; to increase the quantity of materials recycled.

*Details of the objectives and quantification:* the National Strategy for Sustainable Growth sets the following goals for waste reduction and waste recycling:

Objective	Indicator	Goal
Reducing waste	Total production	Reduction of 25 Mt per year
	Per capita production	None
	Production/GDP	None
Recycling material from municipal waste	Total sorted collection	35% by 2003
	Per capita sorted collection	None
	Sorted collection by type	None
	Recycling ratio by type	Estimates not available
	Economic impact of recycling	Estimates exist but no goal set
Recovering energy from municipal waste	Energy produced from waste	30% of municipal waste
	Economic impact of energy recovery	No estimate available

### ***Policy instruments***

#### *Choice and design of policies and policy instruments*

The financing and economic regulatory mechanisms of the municipal waste sector were overhauled by Legislative Decree 22/1997, which, among other things, provides for switching from a regime of “taxation” to one of “pricing”. This change and the introduction of the Financial Plan are designed to ensure efficient and cost-effective management. The actual adoption of pricing has been deferred to give municipalities time to reach the objective of 100 per cent cost coverage.

Administrative procedures are to be simplified for enterprises that have obtained EMAS certification and a fund is to be set up at the Ministry for the Environment for the promotion of the local “Agenda 21” and for trial use of the local environmental accounts.

*Environmental and fiscal impact of instruments*

The founding principle of the pricing mechanism is the Polluter Pays Principle. Indeed producers of waste effectively pay for the service they receive. At present, however, there are no incentives for individual households to reduce their volume of waste: the price of the service is based on the number of persons living in the housing unit or the latter's property-registry value, not on the volume of waste they actually produce.

The latest available data, for 1999, indicate that only 774 of Italy's 2,211 municipalities with more than 5,000 inhabitants had achieved 85 per cent cost coverage and more than 120 of them had drawn up the Financial Plan. In 2000, a total of 219 municipalities with a total population of around 2 million applied the reduced price on an experimental basis.

The EMAS, ISO 14000 and IPPC certifying systems should constitute an incentive on the amount of waste produced by certified companies.

The waste recycling industry has shown several synergies with the glass, paper and metals sectors, with a consequent reduction in the exploitation of natural resources. An incentive for recycling exists in the form of a price reduction proportionate to the weight of the materials recycled. The reduction is applied to all consumers whether or not they sort for recycling. This limit of the system, which implies a departure from the PPP principle, cannot be rectified at sustainable costs with the present technology.

A quarter of Italy's provinces, nearly all of them in the North, are expected to achieve 35 per cent recycling this year. Some regions in the Centre and South lack a sorted waste-collection system.

**PERCENTAGE OF MATERIAL RECYCLED IN DIFFERENT AREAS**

Ca. 30 provinces in the North	35%
North	25%
Centre	20%
South and Islands	5%

Source: National Observatory on Waste



Voluntary agreements for the recycling of packing materials involve 1,200 firms, 64 per cent of which are located in the North.



### III. C. THE SUSTAINABILITY OF THE ITALIAN PENSION SYSTEM

#### The institutional framework <sup>(62)</sup>

##### a) Introduction

The Italian pension system is based mainly on labour market participation; universalistic or welfare-oriented pension benefits form a marginal portion of total public expenditure <sup>(63)</sup>. Workers' participation in the pension system is compulsory by law; the system is pay-as-you-go and thus implies an intertemporal pact between generations. Historically, social security in Italy came to be considered as a fundamental component of the welfare state, and this idea translated into a pension system arranged by categories, or occupational groups, with separate funds for individual categories of workers.

The collection of contributions and the disbursement of benefits is thus performed by a large number of public agencies, although 95 per cent of compulsory pension system members are covered by two social security institutions: INPS (*Istituto Nazionale Previdenza Sociale*), covering private sector employees and self-employed workers, and INPDAP (*Istituto Nazionale di Previdenza dei Dipendenti dell'Amministrazione Pubblica*), for public employees. In any case, recent reforms have largely harmonised eligibility criteria and award formulas between the two institutions.

The present framework of the Italian pension system is the result of three major reforms enacted in the 1990s, which substantially changed its structure: Legislative Decree 503/1992, Law 335/1995, and Law 449/1997, which completed and accelerated the implementation of the 1995 reform. The 1995 reform instituted the contribution-based method of benefits calculation, with the objective of altering the acquired entitlements of the participants to the pension system only in part. It was thus established that all workers who at 31 December 1995

<sup>(62)</sup> This section provides a general description of the main features of the Italian pension system. For further technical details, see *Country fiche Italy*, drafted by the Department of State Accounting for the Economic Policy Committee's Working Group on Ageing Population. Tables 1 and 2, appended to the present note, are drawn from the "country fiche".

<sup>(63)</sup> These so-called "social pensions" or "social allowances" are old-age poverty benefits for persons older than 65 and under an income ceiling.

had at least 18 years of contributions would continue to be covered by the old, earnings-based formula. Those with less than 18 years' contributions are on a *pro rata* mixed system. Those beginning work after 31 December 1995 are covered exclusively by the new contribution-based rules.

*b) Straight earnings-based formula*

For workers with 18 years of contributions prior to 1 January 1996, the pension benefit is given by the product of three factors: 1) pensionable earnings, equal to the average earnings over the reference period <sup>(64)</sup> revalued for inflation <sup>(65)</sup>; 2) the accrual rate, now harmonised at 2 per cent <sup>(66)</sup> for each year of service for all workers, with marginal exceptions; 3) the number of years of contributions, up to a ceiling of 40. As a consequence of points (2) and (3), the pension cannot exceed 80 per cent of the reference earnings.

The minimum retirement age is 65 for men and 60 for women; together with at least 20 years of contributions, this age makes the worker eligible for the old age pension. However, this group of workers also has the possibility of the seniority or length-of-service pension, which is calculated by the same formula as the old age pension. When the reform is fully phased in, i.e. after 2008, the seniority pension will be available only to those meeting the following requirements:

- at least 35 years of contributions and 57 years of age;
- at least 40 years of contributions, regardless of age.

The final entry into effect of these eligibility requirements comes after a gradual period of transition that depends also on one's occupational category. Table 2 describes the transition period in detail.

Under these rules, the flow of new pensioners covered by the straight earnings-based award formula should come to an end between

<sup>(64)</sup> Under Law 503/1992, the reference period varied with one's occupational category and number of years of contributions.

<sup>(65)</sup> For details on the revaluation mechanism, see Annex, Table 1.

<sup>(66)</sup> Up to the pensionable-earnings ceiling of about 33,000 Euro, above which the accrual rate is decreasing. Some categories have more favourable coefficients, such as workers who began work at an extremely young age. However, they represent a marginal portion of all persons employed.

2013 and 2020, when those with 18 years of contributions in 1995 decide to retire <sup>(67)</sup>).

*c) Straight contribution-based formula*

This system applies to workers beginning their careers after 31 December 1995. It links pension benefits to the amount of contributions paid in over one's entire career. The contributions are entered in a notional fund and earn a return equal to the five-year moving average of GDP growth rates. The sum of the revalued contributions paid in is the contribution base. To determine the pension benefit, the contribution base must be multiplied by a conversion coefficient that depends on age at retirement and remaining life expectancy <sup>(68)</sup>. Law 335/1995 also provides for the revision of the coefficients every ten years in the light of changes in individuals' life expectancy. The coefficients were designed to make the present discounted value of future benefits equal to the value of the contribution base accumulated at retirement, thus introducing actuarial rules for the benefit age formula <sup>(69)</sup>.

The contribution-based system is characterised by flexible retirement. Workers may decide to retire at any age between 57 and 65 if they have at least 5 years of contributions and if their pension entitlement is equal to at least 1.2 times the old age poverty benefit. Obviously, the conversion coefficient differs according to retirement age, because that age determines one's remaining life expectancy.

*De facto*, the seniority pension has been abolished. The law provides that someone with 40 years of contributions may retire even before age 57 with the conversion coefficient for a 57-year-old. But such cases will be rare, comprising only persons who have worked without interruption from age 16 or younger.

*d) Mixed or pro rata formula*

For workers with less than 18 years of contributions on 31 December 1995, the pension is calculated on a *pro rata* basis; that is, in

<sup>(67)</sup> Naturally, they will draw the straight earnings-based pension for the rest of their lives and possibly pass it on to their survivors.

<sup>(68)</sup> The coefficients also take account of the life expectancy of the spouse eligible for survivors' benefits.

<sup>(69)</sup> Actually, the conversion coefficients are calculated so as to equalise the *internal rates of return* for all retirement ages, on certain assumptions concerning life expectancy and GDP growth.



part using the earnings-based and in part the contribution-based formula. The two entitlements accumulated under the two systems are summed; they depend on the number of years of contributions under each system. For the earnings-based portion, the reference earnings are the latest ones before retirement, not those prior to 1996. The detailed benefit formula is given in Table 1. The old age and seniority pension eligibility rules for those retiring on the mixed formula are the same as under the earnings-based formula.

*e) Contribution rates*

Contribution rates do not depend on one's benefit formula but only on occupational category. For employees, the rate is 32.7 per cent of gross earnings, 23.81 per cent charged to the employer and 8.89 per cent to the employee. Under the contribution-based system, however, the rate used in calculating the total contribution base is 33 per cent <sup>(70)</sup>. For the self-employed, contribution rates vary with category (craftsmen, traders, and farmers), while the imputed rate used for computation of benefits is 20 per cent for all. The law provides for gradual convergence of actual contribution rates with the imputed rate. When fully phased in, i.e. from 2014, the contribution rate will be 19 per cent, just one percentage point less than the imputed rate. In 2001 the difference ranged from 0.7 points for farmers to about 3 points for craftsmen and traders.

*f) The indexation mechanism*

Legislative Decree 503/1992 abolished the old system of full indexation of pensions to both real wages and prices. Since 1993 all pensions have been indexed only to the annual rise in Istat's consumer price index. For pensions above a certain threshold this price indexation is only partial, while the Government may make appropriations (out of general tax revenue) to occasionally adjust the indexation in consideration of developments in the economy, but subordinate to the stabilisation of the expenditure to GDP ratio.

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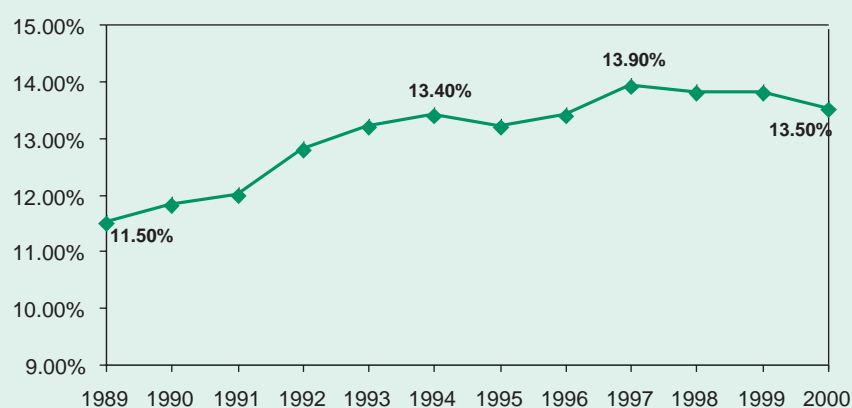
<sup>(70)</sup> The difference is paid out of general tax revenue, allowing some scope for income redistribution.

## The impact of the reforms

### a) Trend of the ratio of pension expenditure to GDP

The ratio of the Italian pension expenditure to GDP has been significantly affected by the three successive reforms of the past decade. The rapid growth of pension outlays in the first half of the period running from 1989 to 2000 was appreciably slowed in the second half, and the ratio of pension expenditure to GDP eventually stabilised. Figure 1 gives the data of the 2001 report of the Welfare Ministry's pension spending evaluation Task Force (NVSP) <sup>(71)</sup>. From 1989 to 1994 the expenditure/GDP ratio rose by 1.9 percentage points, from 11.5 to 13.4 per cent; over the next six years (1995-2000) it held broadly stable, and worked out at 13.5 per cent in 2000.

Figura 1 - Ratio of pension expenditure to GDP



Source: Ministry of Welfare - Evaluation Unit for pension spending.

### b) The rate of growth in pension spending

Examination of the annual growth rates of pension spending further confirms the sharp slowdown, hence the positive effect of the reforms enacted in the 1990s to curb spending. To highlight the impact, we break the overall period 1989-2000 down into three sub-periods: that

<sup>(71)</sup> "Gli Andamenti Finanziari del Sistema Pensionistico Obbligatorio", Rome, June 2001.



preceding the reform (1990-1992), the reform phase (1993-1997), and the post-reform years (1998-2000). For each, the evaluation task force has calculated the average annual rate of increase in pension expenditure. For a better comparison of trends in periods marked by sharply different inflation rates, the Task Force also calculated growth net of the price indexation of existing pensions. The results are given in Table 1. The decline in the average annual rate of increase in pension spending has been pronounced, especially following the completion of the reform with the passage of Law 449/1997. In 1990-1992, spending net of price indexation was rising by 6.1 per cent per year; in the last three years, by just 1.5 per cent.

**Table 1 - Average annual increase in pension spending**  
(percentages)

	1990-2000	1990-1992	1993-1997	1998-2000
Pension expenditure	7.5	12.2	7.3	3.1
Expenditure net of price indexation (*)	3.8	6.1	3.8	1.5

(\*) The average annual change in prices in these periods was:  
1990-2000=3.9%; 1990-1992=6.0%; 1993-1997=3.8%; 1998-2000=2.0%

*c) The savings produced by Law 335/1995*

Further confirmation of the substantial impact of the reforms in curbing pension spending comes from examination of the amounts saved by the State as a result of the new rules. A recent report by the "Ministerial Committee to evaluate the effects of Law 335/1995 and subsequent measures" at the Ministry of Welfare checked attainment of the reform's objectives for 1996-2000, quantifying the amount of actual savings for the pension system thanks to the reform. The objectives were attained; indeed, the improvement was greater than predicted, thanks to action both on the contribution and on the expenditure side.

The 1995 reform and its successor (Law 449/1997) resulted in savings or increased revenues for a total of 32.9 billion Euro in the period 1996-2000. Net of costs or decreased revenues, the cumulative saving for those years came to 28 billion Euro <sup>(72)</sup>. The main changes contributing to this savings were the tightening of seniority pension

<sup>(72)</sup> Some 2 billion Euro of this is attributed to lower costs due to the fact that the development of private pension plans was less substantial than had been predicted in 1995.

eligibility requirements (about 12.5 billion Euro), the extension of compulsory pension coverage to free-lance workers working regular for the same employer (7.5 billion Euro), and a rise of 0.7 per cent in the contribution rate, evenly split between employers and employees (7 billion Euro).

In addition to the savings produced by Law 335/1995, one should consider those stemming from Legislative Decree 503/1992 (indexation only to inflation and lengthening of the reference period for calculating pensionable earnings) and above all those of favourable contingencies not connected with Law 335 <sup>(73)</sup> that helped to produce better-than-planned results <sup>(74)</sup>.

As to medium-term savings, the report indicates that the savings now expected for the five years from 2001 to 2005 will be greater than had been estimated in 1995. The cumulative saving is estimated at 52 billion Euro net of extra savings attributable to regulatory changes subsequent to 1995 but not covered in the verification. The savings due to the introduction of the contribution-based award formula will be realised only in the medium and long term, and should help to reverse the upward trend in the expenditure/GDP ratio. This will be dealt with more thoroughly in the following section in commenting on the medium and long-term projections of pension spending.

In concluding on this point, let us note that both the trend in the ratio of pension expenditure to GDP in the past decade and the analysis of such other indicators as the annual rate of increase in pension spending and actual pension savings obtained confirm that the reform strategy of the 1990s has succeeded in stabilising the ratio of pension expenditure to GDP in the short term.

### **Medium and long-term financial sustainability**

This section presents projections of the Italian pension expenditure based on three distinct demographic and macroeconomic scenarios. The

<sup>(73)</sup> Savings due to the harmonisation of contribution rates for some special pension funds and the ban on cumulation of direct pension with labour income. This saving amounts to about 2 billion Euro.

<sup>(74)</sup> The evaluation committee (*Commissione ministeriale per la valutazione degli effetti della legge 335/1995 e successivi provvedimenti*) confirmed that total savings were greater than the objectives set in 1995. Considering contingencies not linked to Law 335, even excluding the savings due to the failure of private pension plans to develop as hoped, the Italian social security system saved more than the amount of resources forecast in 1995.

first forecast is that of the “Working Group on Ageing Population” of the Economic Policy Committee (EPC-WGA). The others, which for simplicity we call “national,” were presented together with that of the EPC-WGA in Italy’s Stability Programme last November. All three projections incorporate the effect of the measures contained in the Finance Bill for 2002 presented by the Government on 30 September, and specifically the appropriation of funds to increase pensions below a certain threshold (516.50 Euro a month). None, however, includes the effects of new pension system reforms. The projections were produced by the Department of State Accounting of the Ministry of Economic Affairs (RGS) <sup>(75)</sup>.

*a) Demographic and macroeconomic scenarios*

In their demographic assumptions, the two “national” projections are based on the central scenario developed by the national statistics institute, Istat, using 2000 as base year <sup>(76)</sup>. The EPC-WGA projection takes forecasts specially developed by Eurostat. The main differences lie in women’s life expectancy (Istat forecasts two years more than Eurostat) and net migration. For the latter, Eurostat assumes a steady inflow of 80,000 immigrants a year, whereas Istat’s scenario is more diversified, with the net inflow rising over time (from 110,000 in 2000 to 125,000 in 2050) and in any case always greater than the Eurostat forecast. The combined effects of different assumptions on fertility rates, life expectancy and immigration results in a higher projected old age dependency ratio <sup>(77)</sup> in the Istat than in the Eurostat scenario over the entire period. The dependency ratio starts at about 29 per cent in 2000 in both scenarios and rises to 67 per cent in 2050 in the Eurostat scenario and 69 per cent in the Istat scenario.

<sup>(75)</sup> Note that the base value for the projection (year 2000) differs slightly from that of the evaluation Task Force report cited earlier. Specifically, whereas the Department of State Accounting model (RGS model) starts with a ratio of 13.8 per cent for 2000, the task force (NVSP) found a ratio of 13.5 per cent. The reason is strictly methodological, due to differing definitions of the pension expenditure aggregate. The RGS model includes old age poverty benefits and social allowances, compulsory supplemental pension plans, and other funds not counted in the evaluation Task Force aggregate.

<sup>(76)</sup> Istat, *Previsioni della Popolazione Residente per sesso, età e regione, base 1.1.2000*.

<sup>(77)</sup> Defined as the ratio of number of persons older than 65 to that of those aged 20-64.

As to macroeconomic assumptions, the baseline scenario agreed at EPC-WGA assumes that Italy's overall labour force participation rate will rise from 63 per cent (in 2000) to about 75 per cent in 2050, thanks above all to increased women's participation. Productivity growth is assumed to accelerate to 2.1 per cent per year until 2005 and then slow to an average of 1.8 per cent in the decades following. On these assumptions, the real GDP growth rate averages 1.5 per cent, but with a significantly higher rate in the first part of the projection period than in the second.

The first national scenario that we present here, designated as "current policy" (*tendenziale*) in the Economic and Financial Planning Document for 2002-2006 (DPEF 2002-2006), posits that the productivity growth rate rises gradually to 2 per cent in 2026 and holds at that rate for the rest of the projection period. The unemployment rate falls to 4.5 per cent in 2050, and the average participation rate for the population aged 20-64 rises to 72 per cent in that year. On these assumptions, real GDP growth averages 1.5 per cent for the period, with higher-than-average values until 2010.

The second national scenario adopts the macroeconomic assumptions of the Forecasting and Planning Report (*Relazione Previsionale e Programmatica*) for 2002, i.e. those forecast by the Government for the current legislature <sup>(78)</sup>.

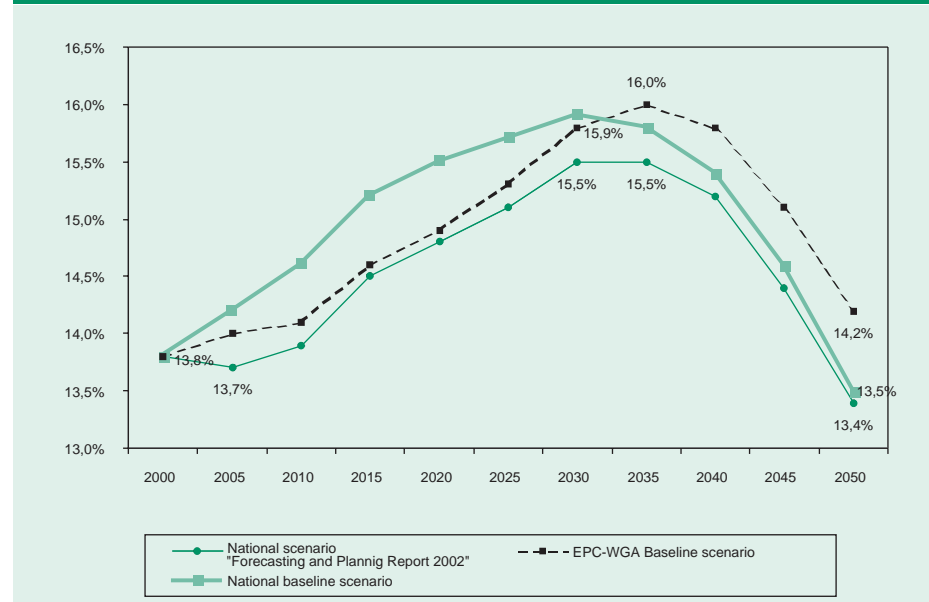
#### *b) The projections*

Figure 2 shows Italy's projected pension expenditure under the three scenarios. It is evident that the trends are quite similar. The trend in the early part of the period (2001-2015) is for rapid rise, except in the first five years, due almost entirely to the increase in the number of pensions, while the ratio between the average pension and productivity holds more or less constant. This factor declines sharply in the central part of the projection period (2016-2030), owing to the phasing in of the contribution-based award formula (people now retiring on the *pro rata*

<sup>(78)</sup> The only differences from the "current policy" scenario in the Economic and Financial Planning Document are for the first five years, when a higher GDP growth rate and greater employment are assumed.

system). The rise in the ratio of spending to GDP continues owing to demographic pressures, but much more slowly. In the final part of the period the ratio falls rapidly. This is due to the changeover from the mixed to the straight contribution-based award formula, while there will be first a slowdown in the number of pensioners to the number of employees ratio and then a reversal, as a result of the decrease of the baby-boom generation.

Figure 2 - Projections of ratio of pension expenditure to GDP



In the absence of further reforms, the EPC-WGA baseline projection forecasts a rise in pension expenditure from 13.8 per cent of GDP in 2000 to 16 per cent in 2033. The ratio then declines significantly, with a final value of 14.2 per cent in 2050. In the demographic and macroeconomic scenario taken as “current policy” in the Economic and Financial Planning Document for 2002-2006, the ratio peaks in 2030 at 15.9 per cent and then declines swiftly to 13.5 per cent in 2050, or 0.3 points below the starting level. Taking the economic growth assumptions of the Forecasting and Planning Report for 2002, which are also described in the Italy’s Stability Programme Update for 2001, pension spending peaks at 15.5 per cent of GDP in 2030 (0.4 points lower than in the other two projections). After five years of stability (2030-2035), it then declines to 13.4 per cent in 2050.



To conclude, as we have seen the reform strategy of the '90s was successful in slowing the rise in pension outlays in proportion to GDP, improving the system's financial sustainability. Nevertheless, the expenditure/GDP ratio will continue to rise in the medium term, though more slowly than in the past despite the strong demographic pressure. In the long run, however, all the projections concur on a rapid reduction in the ratio thanks to the phasing in of the contribution-based award formula.

### **Planned objectives**

The Economic and Financial Planning Document 2002-2006 states the Government's intention to verify the financial and social sustainability, and the stability, of the pension system with a view to enhancing equity and the social welfare system in general. The Ministerial Committee to evaluate the effects of Law 335/1995 and subsequent measures has specified four objectives that the Government will consider:

- Financial stability and observance of the intertemporal constraint; this requires curbing the ratio of pension expenditure to GDP in the medium term and better balance of the ratio of contribution revenue to benefit outlays;
- Intra-generational and inter-generational equity, based on the principle of actuarial equivalence so as to avoid disparity of treatment between generations and between occupational categories;
- Neutrality of retirement arrangements as regards employment choices, to prevent distortions that impede the entry of new generations into the labour market or the continued activity of older workers;
- Diversification of retirement saving, an objective that reflects the principle of optimal allocation of savings between private funded pension schemes and the public pay-as-you-go system.

In fact, the development of supplementary, private retirement provisions is an essential element in the Government's programmatic framework, especially as regards the social sustainability of the system. Law 335/1995 laid the groundwork for the development of private pension schemes by removing a series of administrative obstacles and reforming the tax treatment of pension funds <sup>(79)</sup>. Following the

<sup>(79)</sup> The measures included the abolition of the 15 per cent entry tax on contributions paid into a fund; income tax deductibility of contributions paid (previously, there was only a smaller tax credit); the abolition of the annual 0.125 per cent tax on pension fund assets in favour of a flat tax of 10 million Lire (5,100 Euro), reduced to 5 million for the first five years.



enactment of these measures, a growing number of Italian taxpayers joined open or occupational pension funds or opened individual retirement accounts (in 2000, the number of people in such plans increased by 20 per cent). Still, after three years <sup>(80)</sup> the number of workers with supplementary pension plans remains low. For example, only 13.2 per cent of private-sector employees have joined their collectively bargained occupational pension funds (and for young workers, only 6 per cent). The total assets of this second pillar of the retirement system amount to just 2.6 per cent of GDP. The Government intends <sup>(81)</sup> to rethink and reallocate the contribution burden now weighing on public and private pension plans, with more consistent harmonisation of rates between different categories of workers. This should further stimulate the growth of supplementary pension funds.

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<sup>(80)</sup> The rules were completed by a series of ministerial decrees issued in 1997.

<sup>(81)</sup> Economic and Financial Planning Document for 2002-2006, p. 30.

ANNEX

Table 1 - Calculation method

Earnings related regime (workers with at least 18 years of contribution at the end of 1995)		Mixed regime (workers with less than 18 years of contribution at the end of 1995)		Contribution based regime (new entrants into the system after 1995)
Old age, early retirement, late retirement and disability	2000	The pension (P) is calculated using the earnings related method. $P = 2\% * (C^1 * W^1 + C^2 * W^2)$ where: W <sup>1</sup> e W <sup>2</sup> = reference wage C <sup>1</sup> e C <sup>2</sup> = years of contribution a) for contribution before 1992 (C <sup>1</sup> ), W <sup>1</sup> is the last monthly wage for public employees and the average of the last 5 or 10 years, respectively, for private employees and the self-employed, b) for contribution after 1992 (C <sup>2</sup> ), W <sup>2</sup> is the average of the last 10 years for private employees, 4 years for the public employees, 13 years for the employed.	The pension (P) is obtained as a sum of two components (P = PA + PB). The first (PA) is calculated by using the earnings-related method while the second one (PB) the contribution-based method. $PA = 2\% * (C^1 * W^1 + C^2 * W^2)$ where: W <sup>1</sup> and W <sup>2</sup> = reference wage C <sup>1</sup> + C <sup>2</sup> = years of contribution before 1995 a) for contribution before 1992 (C <sup>1</sup> ), W <sup>1</sup> is the last monthly wage for public employees and the average of the last 5 or 10 years, respectively, for private employees and the self-employed, b) for contribution between 1993-1995 (C <sup>2</sup> ), W <sup>2</sup> is the average wage of the number of last years progressively increasing. $PB = ct * M$ (for explanation, see the box in the right hand).	The pension is calculated using the contribution-based method. $P = ct * M$ where: ct = conversion coefficient M = the total of contribution accrued during the whole working life capitalized at the ratio of growth of nominal GDP. The conversion coefficients range from 4.72% at the age of 57 to 6.14% at the age of 65. Over 65 years of age (late retirement) the conversion coefficients are set equal to the one at 65. Such coefficients are adjusted every 10 years according to changes in life expectancy. The contribution percentage applied to income to calculate the amount of contribution yearly accrued is 33% for the private and public employees and 20% for the self employed.
	starting from 2006	The pension (P) is calculated using the earnings related method. $P = 2\% * (C^1 * W^1 + C^2 * W^2)$ where: W <sup>1</sup> e W <sup>2</sup> = reference wage C <sup>1</sup> e C <sup>2</sup> = years of contribution a) for contribution before 1992 (C <sup>1</sup> ), W <sup>1</sup> is the last monthly wage for public employees and the average of the last 5 or 10 years, respectively, for private employees and the self-employed, b) for contribution after 1992 (C <sup>2</sup> ), W <sup>2</sup> is the average of the last 10 years for private employees, 4 years for the public employees, and 15 years for the self-employed (starting from 2002).	The pension (P) is obtained as a sum of two components (P = PA + PB). The first (PA) is calculated by using the earnings-related method while the second one (PB) the contribution-based method. $PA = 2\% * (C^1 * W^1 + C^2 * W^2)$ where: W <sup>1</sup> and W <sup>2</sup> = reference wage C <sup>1</sup> + C <sup>2</sup> = years of contribution before 1995 a) for contribution before 1992 (C <sup>1</sup> ), W <sup>1</sup> is the last monthly wage for public employees and the average of the last 5 or 10 years, respectively, for private employees and the self-employed, b) for contribution between 1993-1995 (C <sup>2</sup> ), W <sup>2</sup> is the average wage of the number of last years progressively increasing. $PB = ct * M$ (for explanation, see the box in the right hand).	The pension is calculated using the contribution-based method. $P = ct * M$ where: ct = conversion coefficient M = the total of contribution accrued during the whole working life capitalized at the ratio of growth of nominal GDP. The conversion coefficients range from 4.72% at the age of 57 to 6.14% at the age of 65. Over 65 years of age (late retirement) the conversion coefficients are set equal to the one at 65. Such coefficients are adjusted every 10 years according to changes in life expectancy. The contribution percentage applied to income to calculate the amount of contribution yearly accrued is 33% for the private and public employees and 20% for the self employed.
Survivors' pensions	as before	- 60% of the pension calculated as above, if a survivor is a widow or widower of an employed; - 60% of the deceased's pension, if a survivor is a widow or widower of a pensioner. The percentage is gradually reduced if the survivor total income exceeds a fixed amount (1).	- 60% of the pension calculated as above, if a survivor is a widow or widower of an employed; - 60% of the deceased's pension, if a survivor is a widow or widower of a pensioner. The percentage is gradually reduced if the survivor total income exceeds a fixed amount (1)	- 60% of the pension calculated as above, if a survivor is a widow or widower of an employed; - 60% of the deceased's pension, if a survivor is a widow or widower of a pensioner. The percentage is gradually reduced if the survivor total income exceeds a fixed amount (1)

Three times the minimum pension, in 1998.

Source: Country fiche Italy, drafted by the RGS for the Economic Policy Committee's Working Group on Ageing Population

Table 2: Eligibility requirements					
	Earnings related and mixed regimes (workers already insured at the end of 1995)			Contribution based regime (new entrant into the system after 1995)	
	2000	starting from 2008			
<i>Old age pension</i>		<ul style="list-style-type: none"><li>• 65 years of age for male</li><li>• 60 years of age for female and 19 years of contribution</li></ul>	<ul style="list-style-type: none"><li>• 65 years of age for male</li><li>• 60 years of age for female and 20 years of contribution (1)</li></ul>	Eligibility requirements range from age 57 to age 65. At least 5 years of contribution are required. A worker is allowed to retire before 65 only if he/she is entitled to a pension of at least 1.2 times the old age allowance. Incentives to postpone the retirement age are implicitly considered according to the actuarial equivalence of the contribution based method (see Table 1) (6)	
	Early retirement (seniority) pensions	Private sector employees	35 years of contribution and 55 years of age (2) or 37 years of contribution		35 years of contribution and 57 years of age (3) or 40 years of contribution
		Public sector employees	35 years of contribution and 54 years of age or 37 years of contribution		35 years of contribution and 57 years (4) of age or 40 years of contribution
		Self employed	35 years of contribution and 57 years of age or 40 years of contribution		35 years of contribution and 58 years of age or 40 years of contribution (5)
<b>Disability pensions</b>		5 years of contribution 3 of which accrued in the last five years. The entitlement of the pension depends only on the amount of disability and not on labour market conditions	as before	5 years of contribution 3 of which accrued in the last five years. The entitlement of the pension depends only on the amount of disability and not on labour market conditions.	
<b>Survivors' pensions</b>		5 years of contribution 3 of which accrued in the last five years	as before	5 years of contribution 3 of which accrued in the last five years	
(1) Starting from 2001. A further postponement of the retirement date is provided with the so-called "windows". This is a complex mechanism aimed to reduce incentive to retire as soon as the minimum age required is reached. Postponement amounts to 3 to 11 months.					
(2) The age requirement is reduced to 54 only for some blue-collar workers.					
(3) Starting from 2002 for white-collar workers and 2006 for blue-collar workers.					
(4) Starting from 2004 for white-collar workers and 2006 for blue-collar workers.					
(5) Starting from 2001.					
(6) The number of pensions calculated according to the sole contribution-based method is small for the period 2000-2010, but is gradually increasing until 2030-2035, when the method is fully phased in.					

Source: Country fiche Italy, drafted by the RGS for the Economic Policy Committee's Working Group on Ageing Population.



## IV. STRUCTURAL INDICATORS





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## STRUCTURAL INDICATORS OF PRODUCTS MARKETS

Performance indicators - Functioning of markets:**Table 1 - Intra EU and total Trade**  
(as a percentage of GDP)

Years	Intra UE trade	Total trade
1996	0.108	0.187
1997	0.112	0.193
1998	0.115	0.195
1999	0.113	0.191
2000	0.122	0.220

Source: Istat data processed by Ministry of Economy and Finance.

**Table 2 - Intra EU 11 FDI inflows and outflows**  
(as a percentage of GDP)

	1996	1997	1998	1999(*)	2000
<b>Direct Investments from:</b>			<b>inflows</b>		
Austria	0.00	0.01	0.00	0.00	0.00
Belgium	0.01	0.01	0.00	0.00	0.01
Finland	0.00	0.00	0.00	0.00	0.01
France	0.05	0.05	0.06	0.10	0.08
Germany	0.04	0.02	0.04	0.12	0.16
Ireland	0.00	0.00	0.00	0.00	0.01
Luxembourg	0.04	0.08	0.01	0.02	0.08
Netherlands	0.00	0.02	0.03	0.03	0.08
Portugal	0.00	0.00	0.00	0.00	0.00
Spain	0.00	0.00	0.00	0.01	0.04
<b>Euro-Zone</b>	<b>0.15</b>	<b>0.19</b>	<b>0.14</b>	<b>0.29</b>	<b>0.47</b>
<b>Direct Investments to:</b>			<b>outflows</b>		
Austria	0.01	0.02	0.01	0.01	0.00
Belgium	0.02	0.01	0.00	0.00	0.01
Finland	0.00	0.00	0.00	0.00	0.01
France	0.02	0.04	0.04	0.06	0.07
Germany	0.02	0.03	0.03	0.23	0.15
Ireland	0.01	0.03	0.00	0.04	0.00
Luxembourg	0.15	0.22	0.14	0.12	0.04
Netherlands	0.13	0.05	0.09	-0.29	0.07
Portugal	0.03	0.01	0.00	0.01	0.00
Spain	0.01	0.01	0.01	0.06	0.04
<b>Euro-Zone</b>	<b>0.39</b>	<b>0.41</b>	<b>0.34</b>	<b>0.23</b>	<b>0.40</b>

(\*) data only partially comparable with those of the preceding years because of the introduction of a methodological change (see methodological notes).

Source: Ufficio Italiano Cambi (UIC) and Istat "Servizio di contabilità Nazionale" data processed by Ministry of Economy and Finance"

**Table 3 - Cross border mergers and acquisitions**  
(EU member States' shares relative to GDP share - per cent ratios)

	1995	1996	1997	1998	1999	2000
<b>Inward</b>						
France	55.6	93.7	90.9	52.8	39.6	36.2
Germany	35.0	53.6	40.5	40.4	44.9	177.1
<b>Italy</b>	<b>42.9</b>	<b>24.0</b>	<b>20.8</b>	<b>17.0</b>	<b>22.7</b>	<b>23.5</b>
Portugal	15.3	75.7	5.8	17.4	4.4	38.0
United Kingdom	367.7	282.1	215.5	291.0	217.2	168.9
Spain	24.7	25.7	52.4	44.2	23.3	53.3
<b>Outward</b>						
France	60.9	86.2	87.4	63.9	101.7	127.6
Germany	79.7	68.5	36.3	93.4	67.1	30.8
<b>Italy</b>	<b>45.2</b>	<b>12.0</b>	<b>20.9</b>	<b>38.2</b>	<b>17.9</b>	<b>15.4</b>
Portugal	32.2	7.8	33.4	121.8	20.8	24.8
United Kingdom	276.4	275.9	255.4	200.7	242.4	262.5
Spain	8.3	51.5	83.3	77.0	70.0	69.1

Source: Eurostat New Cronos and UNCTAD - "World Investment Report 2001" - data processed by Ministry of Economy and Finance.

**Table 4 - Harmonised index of consumer prices**  
(1996=100)

	1997	1998	1999	2000	2001
EU15	101.7	103.0	104.3	106.4	109.0
Austria	101.2	102.0	102.5	104.5	106.9
Belgium	101.5	102.4	103.6	106.4	109.0
Denmark	101.9	103.3	105.4	108.3	110.7
Germany	101.3	102.0	102.5	104.4	106.3
Greece	101.2	102.6	103.9	107.0	109.8
France	101.5	102.1	102.8	104.9	107.4
Finland	105.4	110.2	112.6	115.8	120.1
Ireland	101.2	103.4	106.0	111.5	116.0
<b>Italy</b>	<b>101.9</b>	<b>103.9</b>	<b>105.7</b>	<b>108.4</b>	<b>111.3</b>
Luxembourg	101.4	102.4	103.4	107.3	109.9
Netherlands	101.9	103.7	105.8	108.2	113.8
Portugal	101.9	104.2	106.4	109.4	114.2
Spain	101.8	103.4	104.8	105.6	106.9
Sweden	101.9	103.7	106.0	109.7	113.7
United Kingdom	101.9	102.9	103.4	104.8	107.6

Source: Eurostat New Cronos.

**Table 5 - Level of labour productivity**  
(annual index: EU15=100)

	output per hour worked			output per employee		
	1991	1995	2000	1991	1995	2000
<b>Italy</b>	<b>113.6</b>	<b>115.0</b>	<b>111.8</b>	<b>113.5</b>	<b>114.2</b>	<b>113.5</b>
United Kingdom	87.0	84.4	91.6	92.2	89.2	97.2
France	122.1	114.1	111.3	120.0	111.9	108.0
Germany	99.5	105.6	105.8	95.5	99.9	97.2
United States	121.2	109.2	118.7	131.3	129.5	138.4
Japan	80.8	81.0	81.1	96.7	92.7	92.7

Source: Eurostat.

**Table 6 - Profitability**  
(annual index: 1995=100)

Years	Agriculture, forestry and fishes	Industry excluding construction	Construction	Trade, hotels, restaurants, transport and communication	Credit services, insurance, real estate services, renting and professional services	Education, Health system, other public and private services
<b>INPUT DEFLATOR</b>						
1997	103.0	101.5	103.6	105.0	108.7	106.1
1998	100.8	100.6	104.3	106.3	111.9	109.2
1999	100.9	100.5	105.7	108.7	114.6	112.6
2000	103.4	109.1	108.3	111.4	116.5	116.7
2001(*)	106.3	111.9	110.8	114.5	122.1	120.0
<b>OUTPUT DEFLATOR</b>						
1997	103.2	102.4	104.4	105.0	107.9	109.9
1998	100.8	101.3	103.9	105.7	108.8	109.2
1999	99.1	101.7	105.7	107.4	111.2	112.0
2000	100.2	108.1	108.9	108.6	114.2	115.9
2001(*)	101.2	110.4	111.6	110.6	119.7	120.3
<b>UNIT VARIABLE COST</b>						
1997	97.6	103.1	104.3	105.0	108.4	110.0
1998	93.0	102.1	104.3	105.7	109.5	109.4
1999	87.0	102.4	106.5	107.9	112.9	112.5
2000	88.2	108.8	109.1	110.5	114.3	116.9
2001(*)	91.1	110.6	111.8	111.9	117.6	120.9
<b>LABOUR COST PER UNIT OF OUTPUT</b>						
1997	96.7	106.4	105.5	102.9	102.6	111.4
1998	90.9	104.6	103.9	101.3	97.8	107.2
1999	83.4	106.1	107.2	103.3	100.3	108.7
2000	83.2	106.0	110.0	104.5	101.7	111.8
2001(*)	85.9	107.1	112.6	104.5	102.1	116.7
<b>MARK-UP - margins on unit variable costs</b>						
1997	105.7	99.4	100.0	100.0	99.5	99.9
1998	108.3	99.2	99.6	100.1	99.3	99.8
1999	113.9	99.2	99.2	99.5	98.6	99.5
2000	113.6	99.3	99.8	98.3	99.9	99.2
2001(*)	111.1	99.9	99.9	98.8	101.7	99.6

(\*) first half

Source: Istat, Conti Trimestrali SEC. 95.

***Performance indicators*** - Network industries:**Table 7 - Electricity generation**  
(year 2000)

	GWH	%
ENEL	125,204	53.1
ERGA	7,513	3.2
VALGEN	127	0.1
EUROGEN	22,471	9.5
ELETTROGEN	7,576	3.2
INTERPOWER	19,636	8.3
TOTAL GENCOs	49,683	21.1
TOTAL ENEL GROUP	182,527	77.4
TOTAL Enel's Group excluding GENCO	132,844	56.3
EDISON GROUP	17,254	7.3
SONDEL GROUP	6,265	2.7
OTHERS (ENI, IEL)	29,880	12.7
<b>TOTAL NET GENERATION</b>	<b>235,926</b>	<b>100.0</b>

Source: Data processed by the Italian Regulatory Authority for Electricity and Gas - "Annual Report 2001"

**Table 8 - Electricity sales**  
(year 2000)

MARKET OPERATOR	ENERGY SOLD GWH	MARKET SHARE (%)
ENEL TRADE S.P.A.	20,761	40.5
EDISON ENERGIA S.P.A.	8,109	15.8
LUMENERGIA SCRL	3,964	7.7
ELECTRAITALIA S.P.A.	2,020	3.9
ASM ENERGIA E AMBIENTE S.P.A.	1,764	3.4
DALMINE ENERGIE SRL	1,485	2.9
ENERGIA S.P.A.	1,369	2.7
OTHER ENTERPRISES	4,026	7.9
<b>TOTAL SALES INTERMEDIATED BY OPERATORS</b>	<b>43,498</b>	<b>85.0</b>
<b>SALES NOT INTERMEDIATED BY OPERATORS (*)</b>	<b>7,702</b>	<b>15.0</b>
<b>TOTAL SALES ON THE FREE MARKET</b>	<b>51,200</b>	<b>100.0</b>

(\*) Estimated data.

Source: Data processed by the Italian Regulatory Authority for Electricity and Gas - "Annual Report 2001"

**Table 9 - Market shares in the gas sector**

OPERATOR	Sales and consumptions (billions of cubic metre)	Market share (%)
SNAM SpA	29.4	42.2
ENEL SpA	6.2	8.9
EDISON SpA and others	3.2	4.6
Distribution Companies	30.8	44.3
TOTAL	69.6	100.0

Source: The Italian Regulatory Authority for Electricity and Gas, "Annual Report 2001", data processed by Ministry of Economy and Finance

**Table 10 - Electricity prices for households  
(Italian Lire/KWh, current exchange rates)**

	Annual consumption classes							
	600 KWh		1200 KWh		3500 KW		7500 KWh	
	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes
EU weighted average	302.9	-1.2	241.7	-0.5	195.1	-2.9	183.4	-0.5
Italy								
- Total tariff	144.7	18.2	169.9	17.3	310.6	1.2	302.0	7.8
- Part of the tariff linked to variable costs (oil)(*)	80.2	74.3	80.2	74.3	172.7	74.4	126.4	27.7
- Tariff excluding variable costs (oil)	64.5	-30.0	89.7	-9.0	137.9	-33.7	175.6	-3.1

(\*) estimates

Source: Eurostat data processed by The Italian Regulatory Authority for Electricity and Gas

**Table 11 - Electricity prices for industrial users  
(Italian Lire/KWh, current exchange rates)**

	Annual consumption classes							
	160000 KWh		2GWh		10GWh		24GWh	
	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes	2001 Lire/kwh	2001/ 2000 % changes
EU weighted average	169.8	-2.2	121.9	1.8	115.5	3.5	98.7	4.4
Italy								
- Total tariff	209.8	8.7	186.5	32.7	182.8	29.2	162.4	33.3
- Part of the tariff linked to variable costs (oil)(*)	118.6	89.8	118.6	89.8	118.6	89.8	118.6	89.8
- Tariff excluding variable costs (oil)	91.2	-34.2	67.9	-22.4	64.2	-26.6	43.8	-36.2

(\*) estimates

Source: Eurostat data processed by the Italian Regulatory Authority for Electricity and Gas



**Table 12 - Gas prices for households**  
(Italian Lire/m3, current exchange rates)

	Annual consumption classes july 2000			Annual consumption classes january 2001		
	8,37GJ	83,7GJ	125,6GJ	8,37GJ	83,7GJ	125,6GJ
UE - weighted average	1020.7	616.5	589.9	1135.8	721.2	693.7
Italy						
- Total tariff	872.2	722.4	710.7	965.2	816.0	803.8
- Part of the tariff linked to variable costs (oil)(*)	364.0	301.5	296.6	477.8	403.9	397.9

(\*) estimates.

Source: Eurostat data processed by the Italian Regulatory Authority for Electricity and Gas.

**Table 13 - Gas prices for industrial users**  
(Italian Lire/m3, current exchange rates)

	Annual consumption classes july 2000				Annual consumption classes january 2001			
	418.6GJ	4186GJ	41860GJ	418600GJ	418.6GJ	4186GJ	41860GJ	418600GJ
UE - weighted average	525.9	444.9	390.5	377.9	606.4	516.7	477.1	427.1
Italy								
- Total tariff	701.5	499.1	387.5	326.3	794.4	572.9	485.2	406.3
- Part of the tariff linked to variable costs (oil)(*)	292.8	208.3	333.3	282.4	393.2	283.6	417.3	349.5

(\*) estimates.

Source: Eurostat data processed by the Italian Regulatory Authority for Electricity and Gas.

**Table 14 - Water Tariffs in some district**  
(June 2000)

District-Operator	Base Tariff Potable water	Part of Tariff for Sewerage	Part of Tariff for Depuration	Average Tariff for Water cycle	Total consumption per head
	Lire/m3			litre/inhabitant per day	
Ascoli Piceno - CIIP	819	170	500	1341	160
Bologna - SEABO	1446	177	502.5	2004	167
Bolzano - SEAB	368	253	778	1336	178
Catania - SIDRA	720	170	500	1319	215
Forlì - CIS	1090	184	525	2499	130
Milano - Acq.to Com.le	290	166.3	500	915	280
Napoli - ARIN	1239	181	507	1768	164
Pescara - ACA	529	170	500	1516	255
Reggio Emilia - AGAC	1310	170	500	2114	123
Roma - ACEA ATO2	682	177	509	1212	293
Salerno - ASIS	710	170	500	1448	n.a.
Torino - SMAT	658	170	280	987	291
Venezia - ASPIV	460	174	500	1074	200
Verona - AGSM	441	230	505	1099	202

Source: Federgasacqua.

**Table 15 - Prices trend in postal services**  
(Harmonised index: 1996=100)

	1997	1998	1999	2000	2001
Austria	109.5	118.9	118.9	118.9	124.4
Belgium	106.3	106.3	106.3	106.3	106.3
Denmark	100.0	100.0	103.4	103.8	105.0
Finland	100.3	102.7	114.0	126.1	129.7
France	101.2	101.2	101.3	101.5	102.2
Germany	103.0	107.5	107.2	107.0	107.7
Greece	104.7	121.7	129.8	138.1	161.5
Ireland	100.0	99.5	99.3	99.3	99.3
<b>Italy</b>	<b>108.1</b>	<b>112.2</b>	<b>112.2</b>	<b>112.4</b>	<b>114.5</b>
Luxembourg	100.0	100.0	100.0	115.2	120.2
Netherlands	108.6	108.6	108.6	109.1	112.3
Portugal	104.6	106.2	107.2	111.6	112.6
Spain	108.1	141.7	141.7	141.7	160.3
Sweden	117.4	124.1	129.8	130.8	130.5
United Kingdom	101.9	103.0	103.7	107.1	108.5
<b>UE15</b>	<b>104.3</b>	<b>107.9</b>	<b>108.2</b>	<b>109.0</b>	<b>110.3</b>

Source: Eurostat, New Cronos

**Table 16 - Market share of reserved postal services**  
(as a percentage of revenues of reserved postal services)

Years	%
1997	73
1998	73
1999	66
2000	66
2001 (*)	66

(\*) Estimates

Source: Poste italiane

**Table 17 - Incumbent's telephone charges: effects of the tariffs rebalancing (percentage changes, year 2000)**

Services	%
Access	2.7
Local	0.0
District	0.0
National Long Distance	-10.0
International	-13.2
<b>Total</b>	<b>-2.8</b>

Source: The Italian Communication Authority

**Table 18 - Incumbent's telephone charges**  
*Telephone charges for 3 minutes calls (italian Lire)*

Fixed to fixed	1998		1999		2000		2001	
	peak	off-peak	peak	off-peak	peak	off-peak	peak	off-peak
Local	127	127	192	153	192	153	192	153
Long distance (over than 30 km)	983	584	924	567	924	924	924	924
International (France)	2,133	1,936	1,990	1,697	1,700		1,700	
International (USA)	2,133	1,936	1,990	1,697	1,700		1,700	
International (Japan)	5,194	4,685	5,115	4,631	4,700		4,700	
Monthly rental basic subs. (B-simplex)	16,800		18,000		18,700		18,700	
Percentage changes	% changes 1999/1998		% changes 2000/1999		% changes 2001/2000		% changes 2001/1998	
	peak	off-peak	peak	off-peak	peak	off-peak	peak	off-peak
Local	51.2	20.5	0.0	0.0	0.0	0.0	51.2	20.5
Long distance (over than 30 km)	-6.1	-3.0	0.0	0.0	0.0	0.0	-6.0	58.2
International (France)	-6.7	-12.4	-	-	-	-	-	-
International (USA)	-6.7	-12.4	-	-	-	-	-	-
International (Japan)	-1.5	-1.2	-	-	-	-	-	-
Monthly rental basic subs. (B-simplex)		7.1		3.9		0.0		11.3

Source: The Italian Communication Authority

**Table 19 - Telephone charges of major operators***Price as of September, 7th 2001 - Value expressed in Italian Lire, VAT excluded*

	Lenght/Cost							
	1 minute		3 minutes		5 minutes		10 minutes	
	peak	off-peak	peak	off-peak	peak	off-peak	peak	off-peak
1. Urban calls								
Telecom Italia	131	118	192	153	253	189	406	277
Infostrada	128	115	184	145	240	175	380	250
Wind	66	48	198	144	304	221	568	413
Tiscali								
E-Planet	55	40	165	120	275	200	550	400
2. Long-distance calls								
Telecom Italia	312	222	682	412	1,052	602	1,977	1,077
Infostrada	310	213	680	388	1,050	563	1,975	1,000
Wind	240	150	720	450	1,104	690	2,064	1,290
Tiscali	100	60	300	180	500	300	1,000	600
E-Planet	105	60	315	180	525	300	1,050	600
3. Fixed/mobile calls								
Telecom Italia	674	411	1,767	978	2,861	1,546	5,595	2,965
Infostrada	720	465	1,760	995	2,800	1,525	5,400	2,850
Wind	600	348	1,800	1,044	2,760	1,601	5,160	2,993
Tiscali	521	320	1,563	960	2,605	1,600	5,210	3,200
E-Planet	500	320	1,500	960	2,500	1,600	5,000	3,200
4. International calls								
	Lenght/Cost							
	1 minute		3 minutes		5 minutes		10 minutes	
4.1 Directed to France/United Staes								
Telecom Italia	900		1,700		2,500		4,500	
Infostrada	600		1,300		2,000		3,750	
Wind	354		1,062		1,770		3,540	
Tiscali	100		300		500		1,000	
Planet	250		750		1,250		2,500	
4.2 Directed to East Europe (Poland)								
Telecom Italia	1100		2,300		3,500		6,500	
Infostrada	950		2,350		3,750		7,250	
Wind	654		1,962		3,270		6,540	
Tiscali	575		1,725		2,875		5,750	
E-Planet	450		1,350		2,250		4,500	
4.3 Directed to Japan								
Telecom Italia	1,900		4,700		7,500		14,500	
Infostrada	1,500		4,000		6,500		12,750	
Wind	2,502		7,506		12,510		25,020	
Tiscali	2,000		6,000		10,000		20,000	
E-Planet	1,500		4,500		7,500		15,000	

Source: The Italian Communication Authority

**Table 20 - Tariff plans - comparison among major operators**

Companies				Tariff Plans			Charges		
Telecom Italia				Teleconomy			9000		
Infostrada				Spaziozero			9000		
Wind				Superlight			10000		
Lenght/Cost									
		1 minute peak off-peak		3 minutes peak off-peak		5 minutes peak off-peak		10 minutes peak off-peak	
1 Urban and long-distance calls									
Telecom Italia		131	124	172	172	220	220	340	340
Infostrada		128	120	160	160	200	200	300	300
Wind		66	48	198	144	277	202	475	346
2 Fixed/mobile calls									
Telecom Italia		640	390	1,679	929	2,718	1,468	5,315	2,816
Infostrada		695	445	1,685	935	2,675	1,425	5,150	2,650
Wind		480	348	1,440	1,044	2,208	1,601	4,128	2,993
3 International calls									
3.1 Directed to France/USA									
Telecom Italia		585		1,105		1,625		2,925	
Infostrada		600		1,300		2,000		3,750	
Wind		354		1,062		1,770		3,540	
3.2 Directed East Europe (Poland)									
Telecom Italia		715		1,495		2,275		4,225	
Infostrada		950		2,350		3,750		7,250	
Wind		654		1,962		3,270		6,540	
3.3 Directed to Japan									
Telecom Italia		1,235		3,055		4,875		9,425	
Infostrada		1,500		4,000		6,500		12,750	
Wind		2,502		7,506		12,510		25,020	
Source: The Italian Communication Authority									

**Table 21 - Competition levels in fixed and mobile telephony**  
(concentration index)

	1995	1996	1997	1998	1999	2000
Number of operators of fixed telephony	1	1	1	6	50	140
HH concentration ratio	10000	10000	10000	<10000	9300	6870
Number of operators of mobile telephony	1	2	2	2	3	4
HH concentration ratio	9800	80000	6600	5900	5000	4800

Source: OECD and Enterprises's Balances, data processed by the Italian Communication Authority

**Table 22 - Market share of operators of fixed and mobile telephony  
(as a percentage)**

Operator	Market share of fixed telephony operators
Telecom	89
Infostrada	39
Albacom	2.5
Wind	1.3
Others	0.5
Market share of mobile telephony operators	
Tim	55
Omnitel	39
Wind	6
Blu	0

Source: The Italian Communication Authority

**Table 23 - Medium and long distance railway transport  
One-way ticket fares (value expressed in Italian Lire)**

Relations	km	1999		2000		2001	
		1 <sup>^</sup> cl.	2 <sup>^</sup> cl.	1 <sup>^</sup> cl.	2 <sup>^</sup> cl.	1 <sup>^</sup> cl.	2 <sup>^</sup> cl.
Roma-Milano (Eurostar)	632	125,500	79,500	129,000	82,000	130,000	90,000
Roma-Firenze (Eurostar)	316	74,500	48,000	81,500	51,500	82,000	57,000
Napoli-R.Calabria (Intercity)	476	91,500	55,500	94,000	58,500	82,100	60,700
Pescara-Bari (Intercity)	300	60,000	36,000	61,800	38,200	54,100	39,700

Source: Trenitalia "FS in cifre", 2000.



**Table 24 - Regional railway transport - Tariffs**

One-way ticket fares and monthly ticket in some Regions (value expressed in Italian Lire)

Regions	Route	km	One Way Ticket					
			1999		2000		2001	
			1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.	1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.	1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.
Campania	Salerno-Avellino	49	7,800	4,700	8,100	4,900	8,100	5,200
	Napoli-Benevento (via Caserta)	97	13,500	8,200	14,000	8,500	14,000	9,000
E. Romagna	Fidenza-R. Emilia	50	7,800	4,700	8,100	4,900	8,100	5,200
	Faenza-Ferrara	97	13,500	8,200	14,000	8,500	14,800	9,500
Lombardia	Milano-Como	47	8,300	5,500	8,300	5,500	8,300	5,500
	Pavia-Bergamo	95	14,900	9,900	14,900	9,900	14,900	9,900
Monthly Ticket								
		km	1999		2000		2001	
			1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.	1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.	1 <sup>st</sup> cl.	2 <sup>nd</sup> cl.
Campania	Salerno-Avellino		134,000	89,000	134,000	89,000	134,000	89,000
	Napoli-Benevento (via Caserta)		183,000	122,000	183,000	122,000	183,000	122,000
E. Romagna	Fidenza-R. Emilia		138,000	86,000	138,000	86,000	138,000	89,000
	Faenza-Ferrara		179,000	112,000	179,000	112,000	192,000	124,000
Lombardia	Milano-Como		135,000	90,000	135,000	90,000	135,000	90,000
	Pavia-Bergamo		185,000	123,000	185,000	123,000	185,000	123,000

Source: Trenitalia

**Table 25 - Number of railway operators owning a licence**

Enterprise	Kind of Licence
Trenitalia SpA (*)	International with extension to the national market
Ferrovie Nord Milano Esercizio SpA (*)	International with extension to the national market
Del Fungo Giera Servizi Ferroviari Spa	International with extension to the national market
Rail Traction Company SpA (*)	International with extension to the national market
Rail Italy srl	International with extension to the national market
Metro SpA	International with extension to the national market
Metronapoli SpA (*)	International with extension to the national market
La Ferroviaria Italiana SpA	International with extension to the national market
Interjet srl	International with extension to the national market
Ferrovia Adriatico Sangritana srl	International with extension to the national market
Hupac SpA	International with extension to the national market
Azienda Consorziale Trasporti di Reggio Emilia	International with extension to the national market
Getras srl	International with extension to the national market
Ferrovia centrale Umbra srl	International with extension to the national market
Cemat SpA	International with extension to the national market
S.A.T.T.I.	International with extension to the national market
Ferrovia Emilia Romagna srl	International with extension to the national market
Società Ferrovie del Gargano srl	International with request of extension to the national market
Società Ferrovie Venete srl	International with request of extension to the national market

(\*) Companies owing a certification of security.

Source: Italian Ministry for Infrastructure and Transport - Railway Monitoring Service.

## QUALITY OF SERVICE PROVIDED BY NETWORK INDUSTRIES

**Table 26 - Electricity: long unplanned outages in Enel's network serving domestic users**

	Italy	Northern Italy	Central Italy	Southern Italy	High concentration areas	Low concentration areas
<b>Number of outages per user</b>						
1996	4.8	3.5	5.1	6.1	n.a.	n.a.
1997	4.6	2.8	5.7	6.1	n.a.	n.a.
1998	4.1	2.6	4.9	5.4	n.a.	n.a.
1999	3.8	2.7	5.2	5.4	1.7	5.6
<b>Average outage length (minutes per user)</b>						
1996	272	159	285	403	n.a.	n.a.
1997	209	125	229	302	n.a.	n.a.
1998	196	121	230	270	n.a.	n.a.
1999	191	145	227	297	75	32.3

Source: The Italian Electricity and Gas Authority, "Annual Report 2001".

**Table 27 - Electricity: long unplanned outages in local providers' networks serving domestic users**

	Number of consumers	Number of outages per user	Average outage length (minutes)
Acea - Roma	770,704	0.1	20
Aem - Milano	435,924	0.4	26
Aem - Torino	248,249	0.4	26
Acegas - Trieste	137,802	0.3	30
Asm - Brescia	117,353	0.3	23
Aec - Bolzano	116,585	0.4	22
Meta - Modena	108,712	0.1	10

Source: The Italian Electricity and Gas Authority, "Annual Report 2001".

**Table 28 - Electricity: average time necessary for each kind of services**

	Enel			Local energy providers		
	1997	1998	1999	1997	1998	1999
<b>(number of days)</b>						
Estimate of connection cost	15.8	16.5	17.4	20.1	16.8	22.8
Connection to the network	5.5	5.0	5.8	10.8	9.6	7.4
Answer to written questions	16.7	13.3	12.2	14.4	15.4	15.8
Answer to complaints	20.2	23.5	23.9	14.2	15.2	15.5
Bill correction	11.3	8.7	8.9	8.8	9.5	13.2
Meters inspection	9.9	9.0	9.9	6.8	6.3	13.0
Tension inspection	9.7	7.1	7.6	1.1	5.2	1.3

Source: The Italian Electricity and Gas Authority, "Annual Report 2001".

**Table 29 - Gas: average time necessary for each kind of services**

	Large size providers			Medium size gas providers			Small size gas providers		
	1997	1998	1999	1997	1998	1999	1997	1998	1999
	(number of days)								
Estimate of connection cost	8.9	8.1	7.5	13.1	11.1	10.0	6.7	9.0	8.3
Connection to the network	15.9	10.8	10.6	22.3	18.9	14.2	15.3	14.1	12.4
Complete installation	30.1	22.0	17.5	28.8	26.2	23.6	27.3	24.1	20.9
Answer to written questions	15.1	12.7	12.6	16.3	18.1	18.1	15.7	14.8	12.4
Answer to complaints	18.1	7.8	14.5	24.5	18.0	17.4	9.5	14.5	9.3
Bill correction	7.0	2.4	17.2	8.8	18.1	6.6	5.6	6.6	6.8
Meters inspection	5.2	4.6	5.6	8.6	10.9	5.0	4.6	3.5	4.2
Pression inspection	4.1	2.4	0.9	3.7	2.4	1.8	2.4	2.7	2.7
Urgent intervention (minutes)	66.3	25.0	40.5	41.6	43.7	32.8	29.4	29.6	26.5

Source: The Italian Electricity and Gas Authority, "Annual Report 2001".

**Table 30 - Quality of postal services**  
Delivery time - days after posting, percentages

	standard of delivery time expressed in days	1998 Average	1 <sup>st</sup> half 1999	2 <sup>nd</sup> half 1999	1 <sup>st</sup> half 2000	2 <sup>nd</sup> half 2000	1 <sup>st</sup> half 2001
Priority mail	1	-	-	81	83	82	81
Ordinary mail	3	65	77	78	83	85	87
International mail incoming	3	33	64	75	88	87	91
Registered mail	3	-	-	85	89	87	89
Insured mail	3	-	-	78	88	87	94
Express mail	1	48	96	98	98	98	98

Source: Poste Italiane

**Table 31 - Users of public transport services breakdown by satisfaction on services and usage frequency (percentages - year 2000)**

Frequency of use	Classes of Judgement				Total Users
	1-3	4-5	6-7	8-10	
RAILWAY SERVICE					
Every day	14.2	23.6	45.1	17.1	742
Several times a week	9.3	26.8	43.3	20.6	791
Several times a month	7.9	25.4	49.6	17.1	1,697
Several times a year	8.7	25.5	50.7	15.1	12,038
Total	8.9	25.5	49.9	15.7	15,268
BUSES AND COACHES					
Every day	11.4	26.1	44.0	18.4	1,578
Several times a week	12.7	23.9	41.9	21.6	938
Several times a month	8.0	23.7	48.1	20.2	1,679
Several times a year	7.8	24.1	48.2	19.9	4,841
Total	9.0	24.4	46.8	19.9	9,036
BUS, TROLLEYBUS AND TRAM					
Every day	13.3	27.7	43.5	15.4	2,519
Several times a week	10.2	26.2	44.1	19.5	3,219
Several times a month	9.4	28.2	43.3	19.1	2,844
Several times a year	10.8	29.0	44.1	16.1	3,885
Total	10.9	27.8	43.8	17.5	12,467

Source: Istat, Indagine multiscopo sulle famiglie - Aspetti della vita quotidiana, in "Annual Report 2001"

**Table 32 - Railway accidents**

Frequency of accident	1995	1997	2000	Average 1995-2000
Number of typical accidents per million of Train-km	0.46	0.42	0.29	<b>0.39</b>
Number of dead in the typical accidents per million of Train-Km	0.06	0.06	0.06	<b>0.06</b>
Number of injured in the typical accidents per million of Train-Km	0.30	0.14	0.04	<b>0.16</b>
Number of dead passengers in all the accidents (typical + non typical) per billion of Passengers-km	0.09	0.37	0.18	<b>0.21</b>
Number of wounded passengers in all the accidents (typical + non typical) per billion of Passengers-km	3.35	1.72	0.69	<b>1.92</b>

Source: Trenitalia, "FS in cifre" - 2000.

**Table 33 - Punctuality of Passenger Trains**

	1995	1997	2000	Average 1995-2000
<b>Total Passenger Trains</b>				
on time (up to 5 minutes late)	85%	82%	85%	84%
less than 15 minutes late	96%	95%	96%	96%
<b>Medium and Long Distance Trains</b>				
on time (up to 5 minutes late)	73%	66%	73%	71%
less than 15 minutes late	88%	85%	87%	87%
<b>Regional Trains</b>				
on time (up to 5 minutes late)	86%	83%	86%	85%
less than 15 minutes late	97%	96%	96%	96%

Source: Trenitalia, "FS in cifre" - 2000.

**Table 34 - Local public services - Significant indicators**

	1996		1997		1998		1999		2000 (*)	
	Value	Index	Value	Index	Value	Index	Value	Index	Value	Index
<b>WATER SERVICE</b>										
Revenue per user (millions of Italian Lire)	0.49	100	0.53	108	0.60	123	0.58	118	0.56	115
Costs per employee (millions of Italian Lire)	224.83	100	259.66	115	263.15	117	277.61	123	288.60	128
<b>ENERGY</b>										
Revenue per user (millions of Italian Lire)	0.94	100	0.98	103	0.97	103	0.88	93	0.99	105
Costs per employee (millions of Italian Lire)	306.19	100	314.65	103	352.11	115	397.65	130	392.26	128
<b>GAS</b>										
Revenue per user (millions of Italian Lire)	0.87	100	0.94	108	0.79	91	0.80	92	0.80	92
Costs per employee (millions of Italian Lire)	559.73	100	622.97	111	674.07	120	670.76	120	690.92	123
<b>WASTE COLLECTING</b>										
Revenue per ton collected (millions of Italian Lire)	0.36	100	0.37	102	0.38	105	0.49	134	0.51	139
Costs per employee (millions of Italian Lire)	138.19	100	146.88	106	147.52	107	184.46	133	187.64	136
<b>LOCAL PUBLIC TRANSPORT</b>										
Revenue per thousand passengers (millions of Italian Lire)	1.78	100	1.78	100	1.68	95	1.76	99	1.91	107
Costs per employee (millions of Italian Lire)	110.56	100	113.40	103	108.58	98	119.90	108	123.71	112

(\*) Estimates.

Source: *Confservizi "Compendio Statistico 2001"*, data processed by Ministry of Economy and Finance.**DISTRIBUTION SECTOR INDICATORS****Table 35 - Market structure in retailing  
(number of stores per 1000 inhabitants)**

	1997	1998	1999	2000 (*)
Large stores	0.11	0.12	0.13	14.83
Small stores	10.77	10.70	n.a.	

(\*) Data are referred to total stores

Source: Ministry for Productive Activities and *Istat*, data processed by Ministry of Economy and Finance



**Table 36 - Profitability in the distribution sector  
(annual index: 1995=100)**

Years	Mark-Up on unit variable costs
1992	97.1
1993	95.8
1994	99.1
1995	100.0
1996	100.0
1997	99.7
1998	99.1
1999	98.6

Source: Istat, *Conti trimestrali SEC 95*

### Performance indicators - Entrepreneurship and SMEs:

**Table 37 - Employment in SMEs**

Size of Enterprises - number of employees	1997 as a percentage of total employed in industry and services (*)	1998
1--9	47.0	47.7
10--49	22.2	21.9
50--249	12.4	12.1
250 and more	18.5	18.3
Total SMEs	69.2	69.6

(\*) Section C, D, E, F, G, H, I, K classification Nace rev.1

Source: Eurostat New Cronos, data processed by Istat

**Policy indicators - Competition:****Table 38 - Human and financial resources of regulatory Authorities**

HUMAN RESOURCES		FINANCIAL RESOURCES	
Date	Employment	Year	Total Expenditure (billions of Italian Lire)
<b>The Competition Authority</b>			
31st March 1992	61	1991	10.3
31st March 1993	79	1992	12.3
31st March 1994	107	1993	18.7
31st March 1995	132	1994	23.5
31st March 1996	138	1995	29.5
31st March 1997	146	1996	33.6
31st March 1998	167	1997	34.9
31st March 1999	174	1998	35.0
31st March 2000	172	1999	37.7
31st March 2001	169	2000	39.1
<b>The Energy and Gas Authority</b>			
30th April 1998	60	1997	12.7
30th April 1999	73	1998	19.1
30th April 2000	80	1999	22.4
30th April 2001	73	2000	22.7
<b>The Communication Authority</b>			
30th June 2000	178	1999	68.3
30th June 2001	216	2000	84.8

Source: The Italian Competition, Energy and Gas, and Communication Authorities

**Table 39 - Proceedings concluded by the Italian Competition Authority**

	1991/1995	1996	1997	1998	1999	2000	2001(*)
<b>Concentrations</b>	<b>2034</b>	<b>357</b>	<b>292</b>	<b>344</b>	<b>423</b>	<b>525</b>	<b>438</b>
Preliminary Investigations	19	3	7	2	6	5	4
of which, forbidden	4		1				2
of which, authorized under condition	4	3	5	2	2	4	2
<b>Agreements</b>	<b>130</b>	<b>64</b>	<b>64</b>	<b>54</b>	<b>30</b>	<b>52</b>	<b>27</b>
Preliminary Investigations	50	23	12	14	12	12	6
of which, infringements	30	15	8	11	12	9	2
<b>Abuses</b>	<b>89</b>	<b>52</b>	<b>46</b>	<b>21</b>	<b>15</b>	<b>22</b>	<b>14</b>
Preliminary Investigations	31	10	5	3	4	7	2
of which, infringements	24	7	4	2	3	6	2
<b>Reporting's activity</b>	<b>58</b>	<b>18</b>	<b>38</b>	<b>42</b>	<b>30</b>	<b>19</b>	<b>7</b>
<b>Consultation for Bank of Italy</b>	<b>162</b>	<b>48</b>	<b>50</b>	<b>46</b>	<b>43</b>	<b>50</b>	<b>24</b>
<b>Football rights</b>					<b>1</b>	<b>1</b>	<b>-</b>
<b>Deceptive and comparative advertising</b>	<b>594</b>	<b>389</b>	<b>506</b>	<b>468</b>	<b>358</b>	<b>333</b>	<b>286</b>
of which, infringements	341	284	361	300	275	266	154

(\*) Data up to September, 13th

Source: The Italian Competition Authority

**Table 40 - Anti-competitive agreements examined by sector of economic activity (number of preliminary investigation concluded)**

	2000
Oil Industry	2
Pharmaceutical Industry	2
Retail trade - large stores	1
Chemical products, plastics, rubber	1
Mechanical engineering	1
Television rights	1
Electronics and computers	1
Insurances and mutual funds	1
Professional and entrepreneurial activities	3
<b>Total</b>	<b>13</b>

Source: The Italian Competition Authority

**Table 41 - Abuses examined by sector of economic activity  
(number of preliminary investigation concluded)**

	2000
Mechanical engineering	1
Transport and and hiring of transport vehicles	2
Chemical products, plastics, rubber	1
Television rights	1
Telecommunications	2
<b>Total</b>	<b>7</b>

Source: The Italian Competition Authority

**Table 42 - Reporting and consulting activity by sector of economic activity  
(number of interventions)**

	2000
Electricity, water and gas	1
Non-metalliferous minerals	1
Construction	1
Agriculture and breeding	1
Pharmaceuticals	2
Transport and and hiring of transport vehicles	1
Press and publishing	1
Telecommunications	5
Cinema	1
Other services	3
Retail Trade	1
<b>Total</b>	<b>18</b>

Source: The Italian Competition Authority

**Table 43 - Privatisation-Gross amount raised**

	Period	Gross Amount Raised	
		billions of Italian Lire	billions of Euro
Ministry of Economy and Finance	1994-june 2001	129,043	66.6
IRI Group	July 1992-December 2000	84,606 <sup>(1)</sup> <sup>(2)</sup>	43.7 <sup>(1)</sup>
ENI Group	July 1992-December 1998 <sup>(3)</sup>	10,633 <sup>(2)</sup>	5.5 <sup>(2)</sup>
<b>Total</b>	<b>July 1992-June 2001</b>	<b>224,282</b>	<b>115.8</b>

<sup>(1)</sup> excluding 22,883 billion Lire for Telecom Italia and 1,624 billion Lire for Seat, both carried out directly by Ministry of Economy and Finance

<sup>(2)</sup> including debt transferred

<sup>(3)</sup> in 1998 Eni Group concluded the dismission process started at the end of 1992

Source: Ministry of Economy and Finance

**Table 44 - Major recent privatisations in the first half of 2001**

Companies	Selling Entity	Industry Sector	Offer Date	Offer Type	Gross Amount Raised (ITL billions)	Percentage Capital Sold (ITL billions)
ENI	Ministry Economy and Finance	Oil	feb-01	Accelerated book-building	5,268	5
Cofiri	IRI	Finance	feb-01	Direct Sale	984	100

Source: Document of Economic and Financial Planning, 2002-2006

**Table 45 - Planned privatisations**

	Period	Gross Revenue (billions of Euro)
Government's Forecasts	2002-2006	60

Source: Document of Economic and Financial Planning, 2002-2006

### Policy indicators - Entrepreneurship and SMEs:

**Table 46 - Administrative costs for company registration (values expressed in Euro)**

Years	Company		Sole Trader	
	1998	2000	1998	2000
Administrative costs	7,700	3,500	1,150	500

Source: Ministry of Productive Activities

**Table 47 - Number of procedures and time required for company start-up**

Years	Company		Sole Trader	
	1998	2000	1998	2000
Number of procedures	21	5-7 (*)	11	5-7
Number of Government Agencies to contact	4	2 (*)	1	1
Time necessary (number of weeks)	22	4	16	4

(\*) Plus a notary

Source: Ministry of Productive Activities

## STRUCTURAL INDICATORS OF INFORMATION SOCIETY

Performance indicators - R&D and innovation**Table 48 - Number of innovating SMEs**  
(percentages - year 2000)

Number of employees	Firms endowed of PC	Firms endowed of PC			
		Firms endowed of e-mail	Firms endowed of web site	Firms practicing on-line purchasing (1999-2000)	Firms practicing on-line selling (1999-2000)
INDUSTRY					
1-4	43.5	33.2	14.7	7.0	11.0
5-9	77.4	45.0	21.6	7.1	11.3
10-19	89.1	58.5	30.2	9.4	17.2
20-49	94.8	75.1	48.5	14.4	27.9
50-99	99.2	86.5	62.6	20.1	36.2
Total	56.5	44.6	22.6	8.4	13.9
CONSTRUCTIONS					
1-4	21.9	23.7	6.3	2.4	4.2
5-9	69.9	27.3	12.6	2.4	2.5
10-19	91.0	50.3	10.2	3.4	7.5
20-49	93.9	72.4	25.2	7.7	10.9
50-99	97.5	83.2	40.4	9.8	12.6
Total	29.5	29.5	9.0	2.8	4.5
SERVICES					
1-4	47.5	37.8	10.6	8.9	8.4
5-9	79.0	46.7	20.2	11.7	11.4
10-19	89.6	63.1	30.8	13.6	15.5
20-49	94.9	71.3	41.5	17.0	20.4
50-99	96.6	81.0	50.3	13.0	18.9
Total	50.2	39.8	12.5	9.4	9.0
TOTAL					
1-4	44.1	36.5	10.8	8.3	8.5
5-9	77.1	43.7	19.6	9.1	10.1
10-19	89.5	59.2	27.7	10.2	15.2
20-49	94.8	73.5	43.8	14.6	23.4
50-99	98.2	84.4	56.9	16.9	27.9
Total	48.7	39.9	13.9	8.7	9.5

Source: Istat, Rilevazione sulle piccole e medie imprese e sull'esercizio di arti e professioni (provisional data)

**Table 49 - Exports of high technology products**  
(as a percentage of total exports)

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Austria	7.9	8.2	9.2	10.2	9.7	9.9	10.1	11.7	12.7
Belgium *	4.2	5.1	5.6	5.5	6.3	6.6	7.1	7.9	8.2
Denmark	9.9	9.2	9.7	10.0	7.7	11.8	12.5	13.9	13.5
Finland	7.6	9.3	10.8	12.6	14.1	16.4	19.4	20.7	23.5
France	19.4	19.2	19.4	19.3	19.3	21.7	22.8	24.0	25.5
Germany	11.2	11.3	11.7	11.6	11.7	12.5	13.1	14.2	15.5
Greece	1.2	2.1	2.2	3.1	3.0	3.1	4.8	5.0	6.7
Ireland	25.3	27.4	29.7	35.0	36.7	37.5	37.7	39.4	41.2
<b>Italy</b>	<b>7.7</b>	<b>7.7</b>	<b>7.5</b>	<b>7.4</b>	<b>7.2</b>	<b>6.9</b>	<b>7.4</b>	<b>7.5</b>	<b>8.4</b>
Luxembourg *	:	:	:	:	:	:	:	13.6	17.5
Netherlands	11.3	13.5	13.2	15.0	15.4	18.7	19.7	21.9	20.9
Portugal	3.1	2.4	3.2	4.6	3.6	3.6	4.0	4.3	5.6
United Kingdom	18.0	18.5	19.3	20.9	21.8	21.1	23.2	24.4	25.0
Spain	5.7	6.4	6.5	5.6	6.0	5.2	5.5	5.9	6.1
Sweden	11.7	11.3	11.1	12.7	14.4	15.5	16.4	17.8	18.7
<b>EU 15</b>	<b>15.4</b>	<b>14.7</b>	<b>14.7</b>	<b>15.3</b>	<b>15.5</b>	<b>16.3</b>	<b>17.6</b>	<b>18.9</b>	<b>19.8</b>
<b>USA</b>	<b>26.6</b>	<b>25.9</b>	<b>26.2</b>	<b>25.8</b>	<b>26.3</b>	<b>27.4</b>	<b>28.7</b>	<b>30.0</b>	:
<b>Japan</b>	<b>23.1</b>	<b>23.6</b>	<b>24.4</b>	<b>25.3</b>	<b>24.8</b>	<b>24.9</b>	<b>24.6</b>	<b>25.1</b>	:

\* Until 1998 Luxembourg is comprised in Belgium's data

Source: Eurostat New Cronos. database "External Trade". data processed by Ministry of Economy and Finance



***Performance indicators*** - Information society**Table 50 - Internet on-line users**

	sept. 1999	dec. 1999	march 2000	june 2000	may 2001
Total users	149.3	161.5	173.6	201.4	231.66
Frequent users	60.8	67.7	86.8	102.4	124.47

Source: Assinform-Net Consulting "Rapporto 2001 sull'informatica e le telecomunicazioni" and Istat - National Accounts, data processed by Ministry of Economy and Finance.

**Table 51 - Internet penetration**

	1999	2000
N. of internet users	11,601,732	13,400,000
N. of on-line buyers	835,359	1,512,000
Users of services of trading on line	n.a.	500,000
Users of home banking services	n.a.	890,000
N. of B2C Web site	1,253	6,000

Source: Assinform-Net Consulting "Rapporto 2001 sull'informatica e le telecomunicazioni" and Istat - National Accounts.

**Table 52 - Value of ICT market**

	1997	1998	1999	2000
Hardware	0.44	0.47	0.5	0.52
Technical assistance	0.11	0.11	0.10	0.09
Software and other services	0.81	0.85	0.94	1.02
<b>Total</b>	<b>1.36</b>	<b>1.43</b>	<b>1.53</b>	<b>1.63</b>

Source: Assinform-Net Consulting "Rapporto 2001 sull'informatica e le telecomunicazioni" and Istat - National Accounts, data processed by Ministry of Economy and Finance.

**Table 53- Mobile phones**

(number of mobile phone service subscribers per 1000 inhabitants)

	1995	1996	1997	1998	1999	2000	April 2001
France	24	43	99	192	353	502	537
Germany	46	71	102	171	283	585	661
<b>Italia</b>	<b>69</b>	<b>112</b>	<b>206</b>	<b>355</b>	<b>525</b>	<b>733</b>	<b>786</b>
Spain	24	76	109	176	375	612	649
Sweden	227	288	362	511	574	753	742
United Kingdom	94	117	143	223	410	680	751
<b>Western Europe</b>	<b>59</b>	<b>92</b>	<b>143</b>	<b>237</b>	<b>399</b>	<b>629</b>	<b>682</b>

Source: OECD "Mobile Communication Outlook 2001", data processed by the Italian Communication Authority.

**Policy indicators** - R&D and innovation:**Table 54 - R&D expenditure by public and private sector**  
(as a percentage of GDP)

Years	Public sector	Private sector
1995	0.21	0.53
1996	0.20	0.54
1997	0.20	0.52
1998	0.22	0.52
1999 (*)	0.25	0.54
2000 (*)	0.24	0.55

(\*) Estimates

Source: Istat - National Accounts and "Indagine sulla R&amp;S in Italia", 2000.

**Table 55 - Full time researches**

(number of full time equivalent units, as percentage of total labour force)

Years	Public institutions	Universities	Industry
1993	0.058%	0.146%	0.123%
1994	0.060%	0.150%	0.125%
1995	0.061%	0.152%	0.120%
1996	0.060%	0.154%	0.122%
1997	0.060%	0.152%	0.121%
1998	0.056%	n.a.	0.118%

Source: Istat - National Accounts and "Indagine sulla R&amp;S in Italia", 2000.

**Table 56 - Researchers**

(total number of researchers, as percentage of total labour force)

Years	Public institutions	Universities	Industry
1993	0.075%	0.220%	0.132%
1994	0.081%	0.224%	0.134%
1995	0.083%	0.227%	0.130%
1996	0.085%	0.226%	0.131%
1997	0.087%	0.222%	0.130%
1998	0.075%	n.a.	0.137%

Source: Istat - National Accounts and "Indagine sulla R&amp;S in Italia", 2000.

**Table 57 - Patents registration broken down by date of filing**  
(percentage of total registered patents in each year)

Date of filing relative to date of registration:	Patents registred in 1996				Patents registred in 2000 and 2001							
	Utility	Design	Invention	Trademark	Utility	Design	Invention	Trademark				
					2000	2001	2000	2001	2000	2001	2000	2001
more than 6 years before	8.4	5.1	0.7	0.0	8.7	0.3	1.0	12.5	0.1	0.5	0.0	0.1
6 years before	9.1	24.1	0.3	0.0	<b>37.9</b>	27.8	41.3	0.0	0.0	0.5	0.0	0.2
5 years before	<b>81.2</b>	<b>69.3</b>	1.4	0.0	26.2	<b>71.5</b>	<b>50.2</b>	0.0	0.2	1.6	0.2	0.1
4 years before	0.3	0.5	44.5	0.3	0.2	0.1	7.3	<b>37.5</b>	1.5	2.6	0.3	0.9
3 years before	0.2	0.0	<b>51.9</b>	44.5	25.6	0.1	0.1	<b>37.5</b>	5.0	<b>89.0</b>	<b>52.1</b>	<b>93.5</b>
2 years before	0.2	0.2	1.1	<b>51.2</b>	1.4	0.1	0.1	12.5	<b>93.2</b>	5.6	42.5	0.4
1 years before	0.5	0.7	0.0	1.3	0.0	0.1	0.0	0.0	0.0	0.2	1.9	2.3
same year	0.1	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.5

Source: Italian Patent Office - Ministry for Productive Activities, data processed by Ministry of Economy and Finance.

**Table 58 - Invention patents registration broken down by date of filing**  
(percentage of registered patents in each year)

Date of filing relative to date of registration:	1996	1997	1998	1999	2000	2001
more than 6 year before	0.7	0.5	0.8	1.0	0.1	0.5
6 years before	0.3	0.2	0.1	0.0	0.0	0.5
5 years before	1.4	0.9	0.1	0.4	0.2	1.6
4 years before	44.5	15.7	1.2	0.6	1.5	2.6
3 years before	<b>51.9</b>	<b>48.2</b>	21.3	2.7	5.0	<b>89.0</b>
2 years before	1.1	34.6	<b>65.4</b>	<b>91.5</b>	<b>93.2</b>	5.6
1 years before	0.0	0.0	11.0	3.8	0.0	0.2
same year	0.0	0.0	0.0	0.0	0.0	0.0

Source: Italian Patent Office - Ministry for Productive Activities, data processed by Ministry of Economy and Finance.

## STRUCTURAL INDICATORS OF CAPITAL MARKET

## Capital market structure

**Table 59 - Investments in equity by institutional investors relative to GDP**  
(billion Lire)

Years	Investment funds	Insurance companies	Assets management	Pension funds (*)	TOTAL	GDP at market prices	Total/GDP %
1996	36,359	35,412	15,339	2,454	89,564	1,902,275	4.7
1997	78,382	43,176	26,555	2,531	150,644	1,983,850	7.6
1998	160,395	53,807	35,408	3,077	252,687	2,067,703	12.2
1999	336,034	71,453	64,580	12,113	484,180	2,144,959	22.6
2000	347,461	90,156	61,372	13,610	512,599	2,257,066	22.7

(\*) By the year 1999 data are referred to all pension funds, not only to a sample of pension funds offered by banks.

Source: Bank of Italy.

**Table 60 - Market share of top five banks**  
(percentage values)

	1996	1997	1998	1999	2000
Market share	34.98	34.51	41.79	51.03	53.35

Source: Bank of Italy.

**Table 61 - Merger patterns in the financial sector**

	1996	1997	1998	1999	2000
Acquisition of the majority of stake					
a) national - number of acquired banks	19	21	37	39	29
b) cross border - number of acquired banks	5	2	5	3	12
Total	24	23	42	42	41
Operations of internal acquisitions	19	19	23	28	25

Source: Bank of Italy.

**Table 62 - Main indicators of the Italian Stock Exchange market capitalisation**

Year	Listed Companies			Capitalisation			Turnover	
	Main Exchange	Nuovo Mercato	Parallel Market for small cap companies	Total	Total Amount in (Euro bn)	(% GDP)	Total value (Euro bn)	Daily average (Euro bn) (*)
1990	229	-	37	266	94	13.8	27	108
1991	231	-	41	272	99	13.3	16	66
1992	229	-	37	266	96	12.2	18	71
1993	222	-	37	259	128	15.9	54	212
1994	223	-	37	260	156	18.2	98	392
1995	221	-	33	254	172	18.6	73	292
1996	217	-	31	248	203	20.6	81	322
1997	213	-	26	239	315	30.7	175	697
1998	223	-	20	243	485	45.4	425	1,681
1999	247	6	17	270	726	66.1	507	2,009
2000	242	40	15	297	818	70.5	869	3,422
2001	237	45	12	294	592	48.5	658	2,611

(\*) data refer to January-December for each year.

Source: The Italian Stock Exchange.

## CAPITAL MARKET INTEGRATION

**Table 63 - Cross-border banking penetration***(Italian bank's and investment funds' assets and liabilities as percentage of total)*

Years	1996	1997	1998	1999	2000	2001 (*)
Cross-border assets	11.0	11.1	12.4	11.2	10.9	11.2
Cross-border liabilities	12.9	13.6	14.5	14.7	15.3	17.0

(\*) Data as at the end of June 2001.

Source: Bank of Italy.

**Table 64 - Percentage of foreign equities in domestic portfolios**

Years	Foreign equities	Shares of foreign investment funds	Total
1996	2.5	0.4	2.9
1997	3.6	0.5	4.2
1998	4.7	0.6	5.3
1999	6.9	0.9	7.7
2000	7.0	1.1	8.1

Source: Bank of Italy.

## SMEs AND INNOVATION FINANCING

Table 65 - Venture Capital investments

	1996	1997	1998	1999	2000	2001 (*)
	amount of investments as a percentage of total investments					
Seed - Start-up	8.9	12.2	15.8	8.3	18.2	31.0
Expansion	43.4	26.4	36.2	22.1	32.6	51.1
Capital replacement	17.5	29.0	13.8	4.8	3.3	5.6
Buy-out	30.2	32.4	34.2	64.8	45.9	12.3
	number of investments as a percentage of total investments					
Seed - Start-up	-	39.7	36.3	41.0	52.5	54.2
Expansion	-	35.0	35.5	33.2	36.4	39.0
Capital replacement	-	13.7	13.5	8.3	2.9	2.7
Buy-out	-	11.5	14.7	17.4	8.2	4.1

(\*) First half data.

Source: AIFI.





**METHODOLOGICAL NOTES****Table 1****Intra EU and total trade.**

The intra-EU trade indicator represents the ratio between intra-EU imports (CIF values) plus intra- EU exports (FOB values) and twice the GDP at market prices (current prices).

The total trade indicator represents the ratio between total imports (CIF values) plus total exports (FOB values) and twice the GDP at market prices (current prices).

**Table 2****Intra EU11 FDI inflows and outflows**

As to inflows the table shows the Euro-Zone Countries' Direct Investment balances (investments minus disinvestments) in Italy (annual flow data - millions of Italian Lire). As to outflows the table shows the Italian Direct Investment balances (investments minus disinvestments) in Euro-Zone Countries. Both flows are expressed as percentage of the Italian GDP at market prices (current prices – millions of Italian Lire).

In 1999 a methodological change widened the definition of Direct Investments including 10 per cent (instead of 20 per cent) stock shares in foreign enterprises, all the financial relationships among the participant enterprises and the participated one (commercial credits and loans) and the banking sector investments.

**Table 3****Cross border mergers and acquisitions**

Mergers and acquisitions of each member States are expressed as a share of total value of EU15 international mergers and acquisitions. Data are weighted with each country's GDP share of total E15 GDP (at market prices, in million Euro).

**Table 4****Harmonised index of consumer prices**

The table shows a comparison of annual average indices (1996=100) between Italy and other European Countries.

The harmonised index of consumer prices is computed on the basis of a harmonised methodology following a minimum standard approach set at the European level.

**Table 5****Level of labour productivity**

Both indices are calculated putting EU15 average=100

Product per hour worked as the ratio between Gross Domestic Product expressed in PPPs (Purchasing Power Parities) and the total number of hours worked.



Product per person employed as the ratio between Gross Domestic Product expressed in PPPs and the total number of standard labour units.

Persons employed cover employees and self employed. Employees include persons engaged by an employer under a contract of employment, civil servants, armed forces, owners of corporations and quasi-corporations if they work in these enterprises. Persons temporarily not at work because of illness, injury, holiday or vacation, strike or training leave are also considered as employed.

The definitions used are consistent with ILO definitions.

#### **Table 6**

##### **Profitability**

Indices of profitability are expressed as 1995=100 and are seasonally adjusted.

Unit variable costs are calculated as ratios between the sum of labour and input costs and the as 1995=100 and are product at factor costs (1995 prices).

Mark-up margins on unit variable costs are calculated as the ratios between the output deflator and unit variable costs.

#### **Table 7**

##### **Electricity generation**

Data processed by the Italian Electricity and Gas Authority, based on "*Dati Statistici sull'energia elettrica in Italia*" provided by the Transmission System Operator (GRTN), and enterprises' balances.

The net production is calculated as the total gross production minus the ancillary services and excluding the production for self-consumption. Production of Edison and Sondel Groups is net of self production.

#### **Table 8**

##### **Electricity sales on the free market**

Data processed by the Italian Electricity and Gas Authority, based on statistics provided by the Transmission System Operator (GRTN) and enterprises' balances. Electricity sales are comprehensive of imports.

#### **Table 9**

##### **Market share in gas sector**

Data processed by the Italian Electricity and Gas Authority, based on data released by the Italian Ministry for Productive Activities and gas industries.

#### **Table 10**

##### **Electricity prices for households**

1st January 2001 prices (Italian Lire/KWH- at current exchange rates), excluding taxes, broken down by annual consumption classes. EU average is weighted with 1997 national consumption.



**Table 11**

**Electricity prices for industrial users**

1st January 2001 prices (Italian Lire/KWH- at current exchange rates), excluding taxes, broken down by annual consumption classes. EU average is weighted with 1997 national consumption.

**Table 12**

**Gas prices for households**

1st January 2001 prices (Italian Lire/m<sup>3</sup> – at current exchange rates) excluding taxes broken down by annual consumption classes expressed in GJ (1GJ = 26 m<sup>3</sup>). EU average is weighted with 1999 national consumption.

**Table 13**

**Gas prices for industrial users**

1st January 2001 prices (Italian Lire/m<sup>3</sup> – at current exchange rates) excluding taxes, broken down by annual consumption classes expressed in GJ (1 Gigajoule=26 m<sup>3</sup>). EU average is weighted with 2000 national consumptions.

**Table 14**

**Water tariffs in some districts**

Portion of tariff, for major districts, concerning potable water, sewerage and depuration services. The average tariff for water cycle (potable water, sewerage and depuration) concerns an annual consumption of 200 cubic meters, including base tariffs and net of VAT. This tariff is calculated considering the tariff structure of each municipality, adding all the components (potable water, sewerage and depuration) and dividing for 200 cubic meters. Total consumption per head is obtained dividing the average tariff for the inhabitants of each districts and for the number of days.

**Table 15**

**Prices trend in Postal services**

The harmonized index of postal services prices (1996=100) in Italy and in the other European Countries. Cross-country comparison must refer only to prices trend as 1996 price levels in each Country (the bases of the indices) were different.

**Table 16**

**Market share of reserved postal services**

Revenues of reserved postal services as a percentage of revenues of total postal services. Data for year 2001 are a projection based on effective data for the first six months.

**Table 17****Incumbent's telephone charges: effects of the tariffs rebalancing**

The table shows the effects on Telecom Italia telephone charges generated by the Authority's decisions n. 85/1998 and n.101/1999. The percentage changes refers to the comparison between 2000 and 1999 telephone charges.

**Table 18****Incumbent's telephone charges.**

The table shows Telecom Italia telephone charges for 3 minutes fixed to fixed calls. Data are expressed in Italian Lire, including set up, excluding VAT. By the year 2000, International Tariffs of Incumbent are independent from time band.

**Table 19****Telephone charges of major operators**

Telephone charges of the main telephone service providers, excluding VAT, valid since 31st July 2001.

Telecom Italia's and Infostrada's local call charges include the 100 Lire call set-up charge. Telecom Italia's long-distance charges refer to calls over more than 30 kilometres and include the 127 Lire call set-up charge. Infostrada's long-distance call charges refer to calls to a different region and include the 125 Lire call set-up charge; the off-peak price is the average of the early evening and all-night charges. Tiscali's and E-Planet's long distance call charges refer to calls to numbers with a different code number.

Telecom Italia's fixed/mobile call charges per minute are calculated as arithmetic averages of the prices charged by Telecom Italia for calls from mobile operators to residential users and include the 127 Lire call set-up charge. Infostrada's fixed/mobile call charges include the 200 Lire call set-up charge. Wind's fixed/mobile call charges exclude calls to Wind mobile phone number. Telecom Italia's international call charges include the 500 Lire call set up charge. Infostrada's international call charges include the 250 Lire call set-up charge.

**Table 21****Competition levels in fixed and mobile telephony**

The Herfindal-Hirshmann index (HH index) is calculated adding the square of market share of enterprises operating in each sector. A reduction in this index indicates an increase in competition.

**Table 25****Number of railway operators owing a licence**

Licence is valid through the European Union area and is released by the competent Authorities in each Member State. By this licence each railway operator is entitled to manage international services for freight and passengers transport.

The licence is released to Italian international associations and Italian railway Companies who manage international combined freight transport.

In order to operate it is also necessary to have the Security Certificate released by the Railway Network Operator.



**Table 26**

**Electricity: long unplanned outages in Enel's network serving domestic users**

Enel S.p.A. is the major energy provider.

The new classification introduced by the Authority in 1999, substitutes the previous one based on the distinction between rural and urban areas. Data are based on Enel's reports to the Electricity and Gas Authority. Data for 1999 exclude territorial precincts, whose data have been considered invalid.

**Table 27**

**Electricity: long unplanned outages in local providers' networks serving domestic users**

Data are based on local energy providers' reports to the Electricity and Gas Authority.

**Table 28**

**Electricity: average time necessary for each kind of services**

Real time - weighted average value.

Data refer to Enel and to Local energy providers with more than 10,000 consumers.

Data based on Enel's and Local energy providers' reports to the Electricity and Gas Authority.

**Table 29**

**Gas: average time necessary for each kind of services**

Real time - weighted average value.

Data based on Gas providers' reports to the Electricity and Gas Authority.

**Table 31**

**Users of public transport services: breakdown by satisfaction on services and usage frequency**

Class of satisfaction are based on a scale from 1 to 10, according to the opinion of families interviewed.

**Table 34**

**Local public services: significant indicators**

In any sector revenues from sales and services are divided by the number of users (in transport sector users are passengers); in waste collecting sector, revenues are divided by number of tons collected.

In any sector costs of production are divided by the number of employees.

**Table 35**

**Market structure in retailing**

Large stores density is calculated as the number of large stores (department stores plus supermarkets plus hypermarkets) per 1,000 inhabitants (resident population).





Small store density is calculated as the number of small stores (total number of stores less large stores) per 1,000 inhabitants (resident population).

**Table 36**

**Profitability in the distribution sector**

The data refer to the wholesale and retail trade, and to repair services. Annual indices 1995=100. Mark-Up is calculated as the output deflator/unit variable costs ratio.

Unit variable costs are calculated as the ratio between the sum of labour and input costs and the product at factor costs (1995 prices).

**Table 37**

**Employment in SMEs**

SMEs employment broken down by categories according to the number of employees. Data are calculated as a percentage of the total numbers of employees in industry and services.

**Table 38**

**Human and financial resources of Regulatory Authorities**

Time series availability differs according to the date of institution of each Authority.

**Table 44**

**Privatisations conducted in the first half of 2001**

List of recent privatisations with information on: privatised companies, selling entity, industry sector, offer date, offer type, gross amount raised (billions of Italian Lire) and percentage of capital sold.

**Table 45**

**Planned privatisations**

Gross revenue forecasted (billions of Euro).

**Table 47**

**Number of procedures and time required for company start-up**

Total number of procedures and delays for sole-trade and company start-up. Years 1998 and 2000 comparison.

**Table 48**

**Number of innovating SMEs**

The definition of innovating SMEs refers to the enterprises who introduced a technological innovation during the year.



**Table 49**

**Exports of high technology products**

High technology products exports as percentage of total manufacturing exports.  
The considered high technology products are: television and radio receivers, sound or video recording or reproducing apparatus and associated goods; television and radio transmitters and apparatus for line telephony and line telegraphy; aircraft and spacecraft; instruments and appliances for measuring, checking, testing, navigating and other purposes, except for industrial process control equipment; pharmaceuticals, medical, chemicals and botanical products for medical use; office machinery and computers.  
EU15 data exclude intra-EU 15 flows.  
EU 11 data exclude intra-EU 11 flows.

**Table 50**

**Internet on-line users**

Frequent users are persons connecting to Internet more than once a week.

**Table 52**

**Value of ICT market**

ICT expenditure (billions of Italian Lire) as a percentage of GDP at market prices (current prices, billions of Italian Lire).  
Technical assistance includes hardware maintenance, software maintenance and new services of technical assistance.  
In ICT total expenditure VAT and expenditure for *intra muros* staff are excluded.

**Table 53**

**Mobile phones**

Number of mobile phone service subscribers per 1,000 inhabitants.  
Data for april 2000 and 2001 are calculated as the ratio between the number of mobile telephony services subscribers (data provided by the Italian Communication Authority) and population in Italy as of 31<sup>st</sup> December 1998 (Istat data).

**Table 54**

**R&D expenditure by public and private sector**

R&D Expenditure at current prices (billions of Italian Lire) financed by public research centres (excluding Universities) and private enterprises, as percentage of GDP at current market prices. Data for 1999 and 2000 are provisional.

**Tables 55-56**

**Full time researchers and total researchers**

Both full time and total researchers are intended as *intra muros* researchers.  
A full time equivalent unit is the total hours worked by a full time employee in the considered year, or it is the equivalent time worked by a part-time employee or by workers having two different jobs. The concept of full time equivalent unit is no longer related to a person, but to a number of hours per year corresponding to a full time job.

**Table 57****Patents registration broken down by date of filing**

All patents registered in each year are classified according to the time elapsing from filing of application to the grant of patent and they are expressed as a percentages of total patents number registered in each year.  
Bold type indicates the most frequent time classes.

**Table 58****Invention patents registration broken down by date of filing**

All invention patents registered in each year are classified according to the time elapsing from filing of application to the grant of patent and they are expressed as a percentages of total patents registered in each year.  
Bold type indicates the most frequent time classes.

**Table 59****Investments in equity by institutional investors relative to GDP**

End of period stocks data. GDP at market prices (current prices).  
Pension Funds data exclude investments in foreign equities. By the year 1999 data are referred to all Pension Fund, not only to a sample of Pension Fund offered by banks.

**Table 61****Merger patterns in the financial sector**

Number of banks' mergers per year (domestic and cross-border mergers).

**Table 62****Main indicators of the Italian Stock Exchange market capitalisation**

Time series of listed companies, capitalisation and turnover. Data refer to December of each year.

**Table 63****Cross-border banking penetration**

Italian banks' cross-border assets and liabilities as a percentage of the total assets and liabilities.

**Table 64****Percentage of foreign equities in domestic portfolios**

Foreign equities and shares of foreign investment funds' as a percentage of domestic portfolios.

**Table 65****Venture capital investments**

SMEs distribution of investments by stage, considering the amount and the number of each stage investments as a percentage of total investments.